DVP-F5/FX1
RMT-D114A

SERVICE MANUAL

Self Diagnosis
Supported model

US Model
Canadian Model
AEP Model
UK Model
Chinese Model
DVP-FX1/F5
Hong Kong Model
DVP-FX1
Australian Model
DVP-F5

Photo: DVP-FX1

COMPACT disc DIGITAL VIDEO

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SPECIFICATIONS

CD/DVD player

Laser
  Semiconductor laser
Signal format system
  NTSC

Audio characteristics

Frequency response
  DVD (PCM 96 kHz): 4 Hz to 44 kHz (±1 dB)*
  DVD (PCM 48 kHz): 4 Hz to 22 kHz (±0.5 dB)*
  CD: 4 Hz to 20 kHz (±0.5 dB)*
Signal-to-noise ratio
  More than 115 dB
  (AUDIO OUT connectors only)
Harmonic distortion
  Less than 0.005 %*
Dynamic range
  More than 99 dB* (DVD)
  More than 98 dB* (CD)
Wow and flutter
  Less than detected value*
  (±0.001% W PEAK)
Speaker output level
  More than 1 W + 1 W

* The signals from AUDIO OUT connectors are measured. When you play PCM sound tracks with a 96 kHz sampling frequency, the output signals from the OPTICAL OUT are converted to 48 kHz (sampling frequency).

General

Power requirements
  Power supply jack
    DC IN 10V jack accepts the AC-FX1 AC power adaptor (supplied), 100-240 V AC, 50/60 Hz
  Battery pack (supplied with DVP-FX1 only)
Power consumption
  10 W (DVP-FX1, DVD VIDEO playback with the LCD screen turned on)
  5 W (DVP-F5, DVD VIDEO playback)
  0.1 W (DVP-FX1/F5, standby)
Dimensions (approx.)
  189 × 26.1 × 137 mm
    (7 1/2 × 1 1/16 × 5 1/2 in.) (DVP-FX1)
  189 × 16 × 137 mm
    (7 1/2 × 21/32 × 5 1/2 in.) (DVP-F5)
  (w/h/d) incl. projecting parts
Mass (approx.)
  641 g (1 lb 7 oz) (DVP-FX1)
  308 g (11 oz) (DVP-F5)
Operating temperature
  41 °F to 95 °F (5 °C to 35 °C)
Operating humidity
  5% to 80%

PORTABLE CD/DVD PLAYER

SONY®

Outputs and inputs

	Jack type	Output level	Input level*	Load impedance
AUDIO	Stereo mini jack	2 Vrms (at 50 kilohms)	2 Vrms	Over 10 kilohms
OPTICAL OUT	Optical output connector	–18 dBm		Wave length: 660 nm
VIDEO	Mini jack	1.0 Vp-p	1.0 Vp-p	75 ohms, sync negative
S VIDEO OUT	4-pin mini DIN	Y: 1.0 Vp-p C: 0.286 Vp-p		75 ohms, sync negative 75 ohms terminated
PHONES	Stereo mini jack	12 mW + 12 mW		32 ohms

* DVP-FX1 only

Supplied accessories

See page 1-3.

Optional accessories

- Battery pack
  NP-FX1
- AV cordless IR transmitter
  IFV-FX1
- Optical digital connecting cord
  POC-15B/15AB
- AV cordless IR receiver
  IFT-R20

Some accessories may not be available depending on the area.

Design and specifications are subject to change without notice.

CAUTION
The use of optical instruments with this product will increase eye hazard. As the laser beam used in this CD/ DVD player is harmful to eyes, do not attempt to disassemble the cabinet.
Refer servicing to qualified personnel only.

CAUTION- Laser radiation
when open and interlock defeated.
DO NOT STARE INTO BEAM.

This label is located on the bottom enclosure (Laser protective housing).

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

与安全有关的零部件须知

在原理图上用阴影及 ⚠ 标记来识别的零部件在安全操作上是具有关键性的。这些零部件要用本手册中所示的部件号对应的索尼零部件进行更换。

在安全操作上具有关键性的电路调整与索尼公司出版的维修手册完全一致。在更换关键零部件时或怀疑动作失常时，请进行这些调整操作。

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, through functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270°C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

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SERVICE NOTES

1. REPLACING OPTICAL PICK-UP

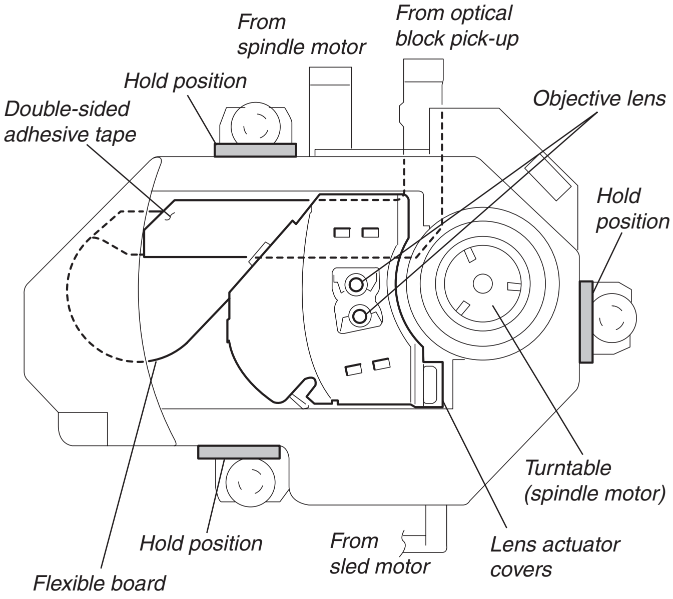
1-1. Handling

1) A red laser diode for DVD requires more attention to static electricity than general infrared laser diodes for CD.
   Because its durability to static electricity is far weaker than that of infrared laser diodes, always use an earth band when handling the optical pick-up block as service parts.

2) The optical pick-up of the DVP-F5/FX1 cannot be replaced as a single part. It is supplied as the MD COMPLE (DVDM-FX1).

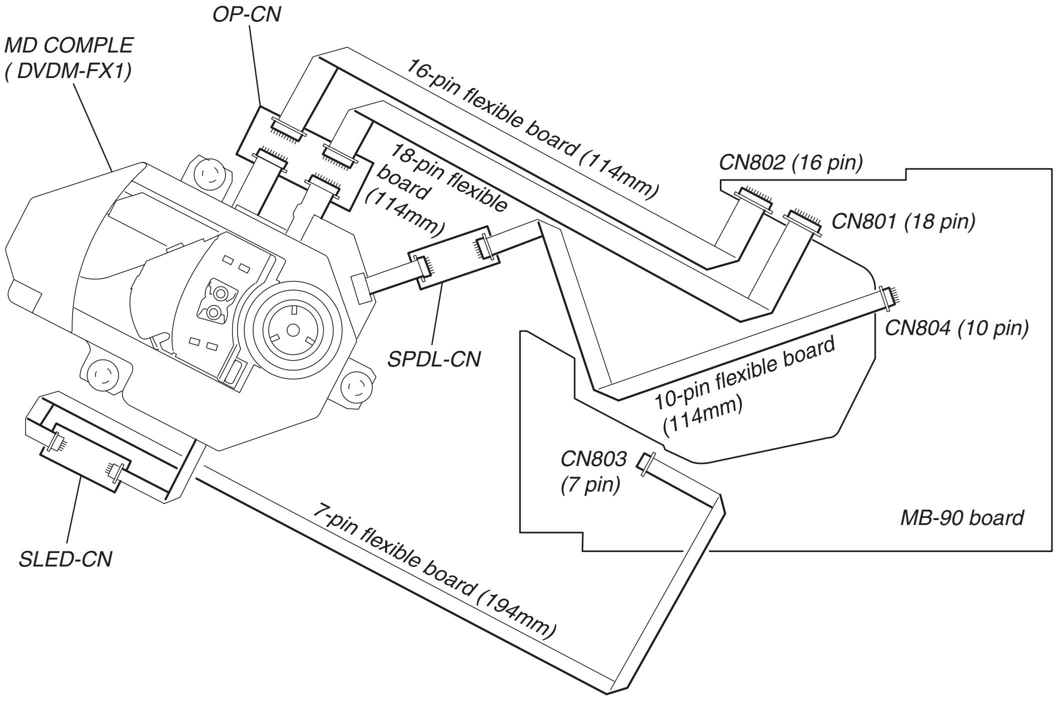
Note: When the MD COMPLE is going to be replaced, be very careful not to damage the flexible board to peel off the flexible board because the flexible board is attached underneath the cabinet by the double-sided adhesive tape.

3) When handling the MD COMPLE (DVDM-FX1), be careful not to touch the portions specified in the illustration of the MD COMPLE with hand. Be sure to hold the hatched portions described as "HOLD" in the illustration.


From spindle motor
From optical block pick-up
Hold position
Double-sided adhesive tape
Objective lens
Hold position
Turntable (spindle motor)
Hold position
From sled motor
Lens actuator covers
Flexible board

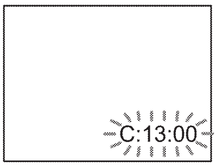
1-2. Connection of the DM flexible extension board (J-6090-101-A) for service

For any attempt is going to be made to inspect, check and adjust the MB-90 board, connect the DM flexible extension board as shown below.


MD COMPLE (DVDM-FX1)
OP-CN
16-pin flexible board (114mm)
18-pin flexible board (114mm)
CN802 (16 pin)
CN801 (18 pin)
CN804 (10 pin)
SPDL-CN
10-pin flexible board (114mm)
CN803 (7 pin)
MB-90 board
SLED-CN
7-pin flexible board (194mm)

Self-diagnosis Function

When the self-diagnosis function activates to prevent the player from malfunctioning, a five-character service number (combination of a letter and digits) flashes on the screen and on the display window. In this case, check the following table.



First three characters	Cause and/or Corrective Action
C13	• The disc is dirty. ➡ Clean the disc with a cleaning cloth (page 12).
C31	• The disc is not inserted correctly. ➡ Open the disc tray and insert the disc correctly.
Exx (xx is any number)	• To prevent a malfunction, the player has performed the self-diagnosis function. ➡ When you contact your Sony dealer or local authorized Sony service facility, give the 5-character service number. (example: E:61:10)

MEMO

SECTION 1
GENERAL

This section is extracted from instruction manual.

DISPOSAL OF LITHIUM ION BATTERY

LITHIUM ION BATTERY.
DISPOSE OF PROPERLY.

You can return your unwanted lithium ion batteries to your nearest Sony Service Center or Factory Service Center.
Note: In some areas the disposal of lithium ion batteries in household or business trash may be prohibited.

For the Sony Service Center nearest you, call 1-800-222-SONY (United States only)
For the Sony Factory Service Center nearest you, call 416-499-SONY (Canada only)

Caution: Do not handle damaged or leaking lithium ion battery.

Welcome!

Thank you for purchasing this Sony CD/ DVD Player. Before operating the unit, please read this manual thoroughly and retain it for future reference.

About this manual

Conventions

- Instructions in this manual describe the controls on the player.
  You can also use the controls on the remote if they have the same or similar names as those on the player.
- The icons below are used in this manual:

Icon	Meaning
▤	Indicates that you can use only the remote to do the task.
💡	Indicates tips and hints for making the task easier.
DVD	Indicates that the function is for DVD VIDEOs.
VIDEO CD	Indicates that the function is for VIDEO CDs.
CD	Indicates that the function is for Audio CDs.

Checking your model name

The instructions in this manual are for the DVP-FX1 and DVP-F5. Check your model number by looking at the bottom of the unit. DVP-FX1 is used for the illustrations purposes. Any difference in operation is clearly indicated in the text, for example, "DVP-FX1 only."

This Player Can Play the Following Discs

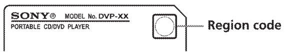
	DVD VIDEOs		VIDEO CDs		Audio CDs	
Disc logo	DVD VIDEO		COMPACT disc DIGITAL VIDEO		COMPACT disc DIGITAL AUDIO	
Contents	Audio + Video		Audio + Video		Audio	
Disc size	12 cm	8 cm	12 cm	8 cm	12 cm	8 cm (CD single)
Play time	About 4 h (for single-sided DVD) / about 8 h (for double-sided DVD)	About 80 min. (for single-sided DVD) / about 160 min. (for double-sided DVD)	74 min.	20 min.	74 min.	20 min.

The "DVD VIDEO" logo is a trademark.

This player conforms to the NTSC color system. You cannot play discs recorded in other color systems such as PAL or SECAM.

Region code of DVDs you can play on this unit

Your DVD player has a region code printed on the bottom of the unit and will only play DVDs that are labeled with identical region codes.



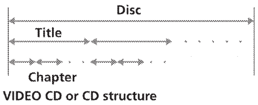
DVDs labeled ALL will also play on this unit.
If you try to play any other DVD, the message "Playback prohibited by area limitations." will appear on the screen. Depending on the DVD, no region code indication may be labeled even though playing the DVD is prohibited by area restrictions.

Note on playback operations of DVDs and VIDEO CDs
Some playback operations of DVDs and VIDEO CDs may be intentionally fixed by software producers. Since this player plays DVDs and VIDEO CDs according to the disc contents the software producers designed, some playback features may not be available. Also refer to the instructions supplied with the DVDs or VIDEO CDs.

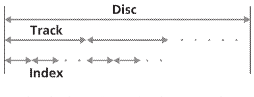
Terms for discs

- **Title**
  The longest section of a picture or music feature on a DVD, the movie, etc. in video software, or the name of an album in audio software.
- **Chapter**
  Sections of a picture or a music feature that are smaller than titles. A title is composed of several chapters. Each chapter is assigned a chapter number enabling you to locate the chapter you want. Depending on the disc, no chapters may be recorded.
- **Track**
  Sections of a picture or a music feature on a VIDEO CD or a CD. Each track is assigned a track number enabling you to locate the track you want.

DVD structure



VIDEO CD or CD structure



- **Index (CD) / Video Index (VIDEO CD)**
  A number that divides a track into sections to easily locate the point you want on a VIDEO CD or a CD. Depending on the disc, no indexes may be recorded.
- **Scene**
  On a VIDEO CD with PBC (playback control) functions, the menu screens, moving pictures and still pictures are divided into sections called "scenes." Each scene is assigned a scene number enabling you to locate the scene you want.

Note on PBC (Playback Control) (VIDEO CDs)

This player conforms to Ver. 1.1 and Ver. 2.0 of VIDEO CD standards. You can enjoy two kinds of playback according to the disc type.

Disc type	You can
VIDEO CDs without PBC functions (Ver. 1.1 discs)	Enjoy video playback (moving pictures) as well as music.
VIDEO CDs with PBC functions (Ver. 2.0 discs)	Play interactive software using menu screens displayed on the screen (PBC Playback), in addition to the video playback functions of Ver 1.1 discs. Moreover, you can play high-resolution still pictures if they are included on the disc.

Discs that the player cannot play

The player cannot play discs other than the ones listed in the table on page 6. CD-ROMs including PHOTO CDs, data sections in CD-EXTRAs, DVD-ROMs, DVD-audio, HD (high density) layer of Super Audio CD etc., cannot be played.

Note
The player may not be able to play a CD-R if it is in poor recording condition.

This Player Can Play the Following Discs (continued)

When playing DTS*-encoded CDs, excessive noise will be heard from the analog stereo outputs. To avoid possible damage to the audio system, the consumer should take proper precautions when the analog stereo outputs of the DVD player are connected to an amplification system. To enjoy DTS Digital Surround™ playback, an external 5.1-channel DTS Digital Surround™ decoder system must be connected to the digital output of the DVD player.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

* "DTS," "DTS Digital Surround" and "DTS Digital Out" are trademarks of Digital Theater Systems, Inc.

Precautions

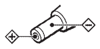
On safety

- Caution – The use of optical instruments with this product will increase eye hazard.
- Should any solid object or liquid fall into the cabinet, unplug the player and have it checked by qualified personnel before operating it any further.

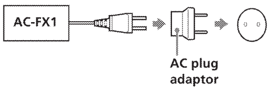
On AC power adaptor and AC power cord

- Use only the supplied AC power adaptor. Do not use any other AC power adaptor. It may cause a malfunction.

Polarity of the plug

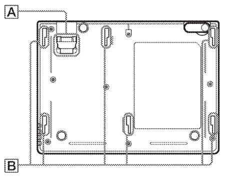


- If the AC power adaptor causes interference to the raido reception, move it away from the radio.
- Disconnect the DC IN 10V jack first, then disconnect from the mains, even if the player itself has been turned off.
- If you are not going to use the player for a long time, be sure to disconnect the player from the mains and/or detach the battery pack. To disconnect the AC power cord (mains lead), grasp the plug itself; never pull the cord.
- The nameplate indicating operating voltage, power consumption, etc. is located at the bottom of the AC power adaptor.
- If the AC plug of your unit does not fit into the wall outlet, attach a commercially available AC plug adaptor.



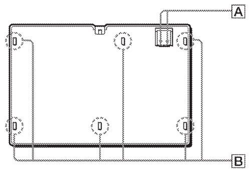
- Do not plug the AC power cord into a voltage transformer or similar device.
- Should the AC power cord (mains lead) need to be changed, have it done at a qualified service shop only.

On the bottom of the unit



- Do not allow dust to come into contact with the terminals (A in the illustration) or holes (B in the illustration).
- Do not open the terminal covers (A in the illustration).

On rechargeable batteries



- Do not short the terminals (A in the illustration).
- Do not open the terminal covers (A in the illustration).
- Do not allow dust to come into contact with the terminals (A in the illustration) or projecting guides (B in the illustration).
- Do not expose to high temperatures (60 °C (140 °F)).

continued

- The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 100 °C (212 °F) or incinerate.
- Danger of explosion if battery is incorrectly replaced. Replace battery with Sony NP-FX1 only. Use of another battery may present a risk of fire or explosion.
- Battery pack is suitable for use only with Sony Portable CD/DVD Player.
- Burn hazard if mistreated. Do not disassemble. Handle damaged or leaking lithium-ion battery with extreme care. If the battery is damaged, electrolyte may leak from the cells and may cause personal injury.
- There may be local restrictions on the disposal or recycling of batteries. Consult your local regulations or waste disposal provider.
- Dispose of use battery promptly.
- Keep away from children.

On placement

- Place the player in a location with adequate ventilation to prevent heat build-up in the player.
- Do not put any heavy object on top of the player. The unit and the disc may be damaged.
- Do not leave the player in a location near heat sources, or in a place subject to direct sunlight, excessive dust or sand, moisture, rain, mechanical shock, unleveled surface, or in a car with its windows closed.
- If the player causes interference to radio or television reception, turn off the player or move it away from the radio or television.
- Do not wrap the player in a cloth or blanket during use as it may cause malfunction or serious accidents.

On operation

- If the player is brought directly from a cold to a warm location, or is placed in a very damp room, moisture may condense on the lenses inside the player. Should this occur, the player may not operate properly. In this case, remove the disc and leave the player turned on for about half an hour until the moisture evaporates.
- While operating, do not move, shake, or otherwise allow any shock to the player. It may cause a malfunction.
- Use this player in a stable, horizontal position where it is not subject to vibration.
- Do not touch the disc if it is still spinning when you open the lid. Doing so may cause injury.

On adjusting volume

Do not turn up the volume while listening to a section with very low level inputs or no audio signals. If you do, the speakers may be damaged when a peak level section is played.
Turn the volume down before you start playback.

Road safety

Do not use headphones while driving, cycling, or operating any motorized vehicle. It may create a traffic hazard and is illegal in some areas. It can also be potentially dangerous to play your headsets at high volume while walking, especially at pedestrian crossing. You should exercise extreme caution or discontinue use in potentially hazardous situations.

On headphones

Preventing hearing damage

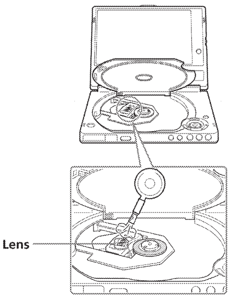
Avoid using headphones at high volume. Hearing experts advise against continuous, loud and extended play. If you experience a ringing in your ears, reduce volume or discontinue use.

Caring for others

Keep the volume at a moderate level. This will allow you to hear outside sounds and to be considerate to the people around you.

On cleaning

- Clean the cabinet, panel and controls with a soft cloth slightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.
- If the turntable does not work properly, check for dust or dirt on the turntable and clean using a soft cloth.
- Never remove the printed "Warranty void if removed." seal attached around the lens.
- If dust on the lens prevents the player from operating properly, clean the lens with a commercially available blower brush designed for cameras. Be careful not to touch the lens directly.
  Do not use a lens cleaning disc. If you do so, the lens may be damaged.



On transportation

- When you transport this player, use the original carton box and packing materials.
- Before you move this player, make sure to remove any discs from the player.

On handling the LCD screen (DVP-FX1 only)

The LCD is manufactured using high-precision technology. You may, however, see tiny black points and/or bright points (red, blue, or green) that continuously appear on the LCD. This is a normal result of the manufacturing process and does not indicate a malfunction.

- Do not scratch the LCD or exert pressure on it. This could cause malfunction.
- Using the player in low temperature conditions may produce a residual image on the screen. This is not a malfunction. When the player returns to normal temperature, the screen returns to normal.
- A residual image may appear on the screen if the same image is displayed for a lengthy period of time. The residual image disappears in a while. You can use a screen saver to prevent residual images.
- The screen becomes warm during operation. This is normal and does not indicate a malfunction.

If you have any questions or problems concerning your player, please consult your nearest Sony dealer.

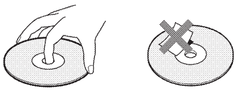
IMPORTANT NOTICE

Caution: The enclosed DVD player is capable of holding a still video image or on-screen display image on your television screen indefinitely. If you leave the still video image or on-screen display image displayed on your TV for an extended period of time you risk permanent damage to your television screen. Projection televisions are especially susceptible to this.

Notes about the Discs

On handling discs

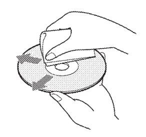
- To keep the disc clean, handle the disc by its edge. Do not touch the surface.
- Do not stick paper or tape on the disc. If there is glue (or a similar substance) on the disc, remove the glue completely before using the disc.



- Do not expose the disc to direct sunlight or heat sources such as hot air ducts, or leave it in a car parked in direct sunlight as the temperature may rise considerably inside the car.
- After playing, store the disc in its case.

On cleaning

- Before playing, clean the disc with a cleaning cloth. Wipe the disc from the center out.



- Do not use solvents such as benzine, thinner, commercially available cleaners or anti-static spray intended for vinyl LPs.

On novelty discs

- Do not use irregularly shaped CDs such as heart- or star-shaped CDs as they may cause the player to malfunction.

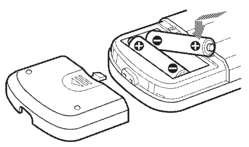
Unpacking

Check that you have the following items:

- Audio/video connecting cord (1)
- AC power adaptor AC-FX1 (1)
- AC power cord (1)
- Remote commander (remote) RMT-D114A (1)
- Size AA (R6) batteries (2)
- Battery pack NP-FX1 (DVP-FX1 only) (1)

Inserting batteries into the remote

You can control the player using the supplied remote. Insert two Size AA (R6) batteries by matching the + and – ends on the batteries to the markings inside the compartment. When using the remote, point it at the remote sensor ▣ on the player.



Notes

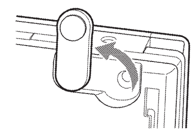
- Do not leave the remote in an extremely hot or humid place.
- Do not drop any foreign object into the remote casing, particularly when replacing the batteries.
- Do not expose the remote sensor to direct sunlight or lighting apparatuses. Doing so may cause a malfunction.
- If you do not use the remote for an extended period of time, remove the batteries to avoid possible damage from battery leakage and corrosion.

Using the LCD Screen (DVP-FX1 only)

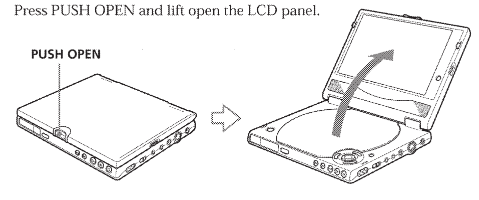
You can watch the playback picture on the LCD screen.

Opening the LCD panel

1 When using the AC power adaptor, pull out the stabilizer tab on the bottom of the player to prevent the player from tipping over.



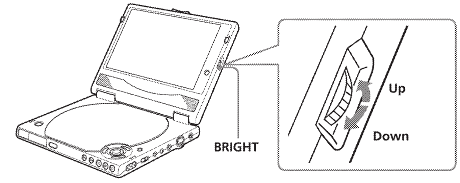
2 Press PUSH OPEN and lift open the LCD panel.



When using the LCD screen, you do not have to connect the TV or the receiver (amplifier). See "Connecting the AC power adaptor" on page 25 or "Using the rechargeable battery pack" on page 26.

Adjusting the brightness of the LCD screen

If necessary, adjust the brightness of the LCD screen using the BRIGHT dial.



Selecting the display mode

You can select the display mode according to the aspect ratio (4:3 or 16:9) of the playback/input picture.

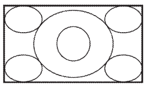
Each time you press DISPLAY MODE, the mode changes as follows:

→ Wide → Full → Cinema → Normal → Off

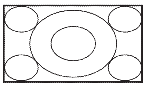
Selecting the display mode according to the aspect ratio of the picture

The aspect ratio of the picture recorded on the DVD is printed on the jacket of the DVD ((4:3) , 16:9 LB , (LB)).

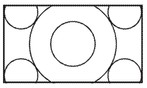
- Wide mode (4:3)
  Enlarges the 4:3 picture. The upper and lower parts of the picture are condensed to fit the 16:9 screen.



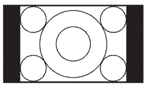
- Full mode 16:9 LB
  Displays the 16:9 picture to fit the screen.



- Cinema mode (LB)
  Enlarges the 4:3 letter box picture and cuts off the black bands to fit the 16:9 screen.
  Depending on the DVD, the edges of the picture may be distorted.



- Normal mode (4:3) 16:9 LB (LB)
  Displays the original picture as it is. The 4:3 picture will have black bands on both sides.
  The 16:9/4:3 letter box picture will have black bands on all sides.



Adjusting the volume

When you listen to the sound through the built-in speakers, adjust the volume by turning the VOL dial.
You can also adjust the volume of external headphones with the VOL dial.

TV Hookups

This connection is for listening to the sound through TV speakers (L: left, R: right). Refer to the instructions supplied with the component to be connected.

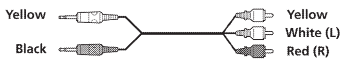
For DVP-FX1

Be sure to set the LINE SELECT switch to OUT.

You can enjoy surround sound using your TV's built-in speakers
You can use 3D sound imaging to create virtual rear speakers from the sound of built-in TV speakers without using actual rear speakers (VES TV: Virtual Enhanced Surround TV). For details, see page 60.

Required cords

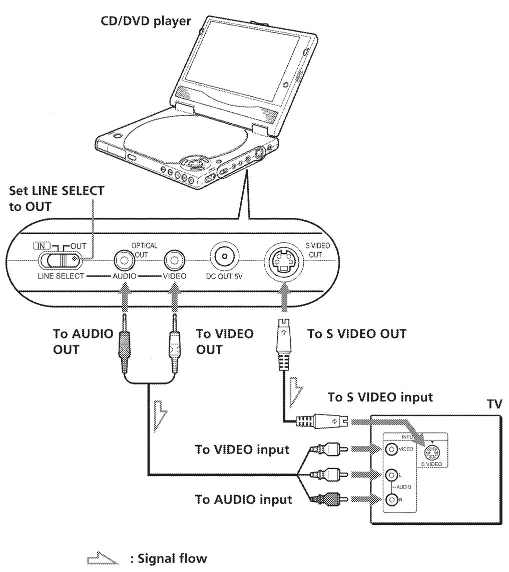
Audio/Video connecting cord (supplied) (1)



S video cord (not supplied) (1)

When connecting the cords, be sure to match the color-coded cord to the appropriate jacks on the components: Yellow (video) to Yellow, Red (right) to Red and White (left) to White. Connect the Black jack of the audio/video connecting cord to AUDIO OUT (White) on the player. Be sure to make connections firmly to avoid hum and noise.

If your TV has an S video input connector, connect the component via the S VIDEO OUT connector using an S video cord (not supplied) instead of the video connecting cord. You will get a better picture.


CD/DVD player
Set LINE SELECT to OUT
IN OUT
LINE SELECT
OPTICAL OUT
AUDIO
VIDEO
DC OUT 5V
S VIDEO OUT
To AUDIO OUT
To VIDEO OUT
To S VIDEO OUT
To S VIDEO input
TV
To VIDEO input
To AUDIO input
: Signal flow

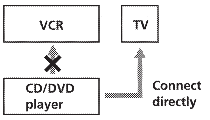
For DVP-FX1

- To turn off the LCD screen:
  press the DISPLAY MODE button on the player repeatedly.
- To adjust the volume of the built-in speakers:
  turn the VOL dial on the player.

continued

Notes

- Refer to the instructions supplied with the component to be connected.
- Do not connect this player to a video deck. If you do, noise may appear in the picture.


VCR
TV
CD/DVD player
Connect directly

Setups for the player

Some setup adjustments are necessary for the player depending on the TV or other components to be connected.
Use the setup display to change the various settings.

For details on using the setup display, see page 76.

- **To connect the player to a normal TV**
  In the setup display, set "TV TYPE" in "SCREEN SETUP" to "4:3 LETTER BOX" (default setting) or "4:3 PAN SCAN." For details, see page 83.
- **To connect the player to a TV having the WIDE MODE function**
  In the setup display, set "TV TYPE" in "SCREEN SETUP" to "16:9/4:3 WIDE MODE." For details, see page 83.
- **To connect the player to a wide-screen TV**
  In the setup display, set "TV TYPE" in "SCREEN SETUP" to "16:9/4:3 WIDE MODE." For details, see page 83.

Receiver (Amplifier) Hookups

This connection is for listening to the sound through speakers connected to a receiver lacking a built-in DTS or Dolby* Digital decoder. Refer as well to the instructions supplied with the component to be connected.

For DVP-FX1

Be sure to set the LINE SELECT switch to OUT.

You can enjoy surround sounds even if you connect front speakers only
You can use 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers (VES:Virtual Enhanced Surround). For details, see page 60.

* Manufactured under license from Dolby Laboratories.
"Dolby," "Pro Logic" and the double-D symbol are trademarks of Dolby Laboratories.
Confidential unpublished works. ©1992-1997 Dolby Laboratories. All rights reserved.

Required cords

Audio/Video connecting cord (supplied) (1)

Yellow
Black
Yellow
White (L)
Red (R)

S video cord (not supplied) (1)

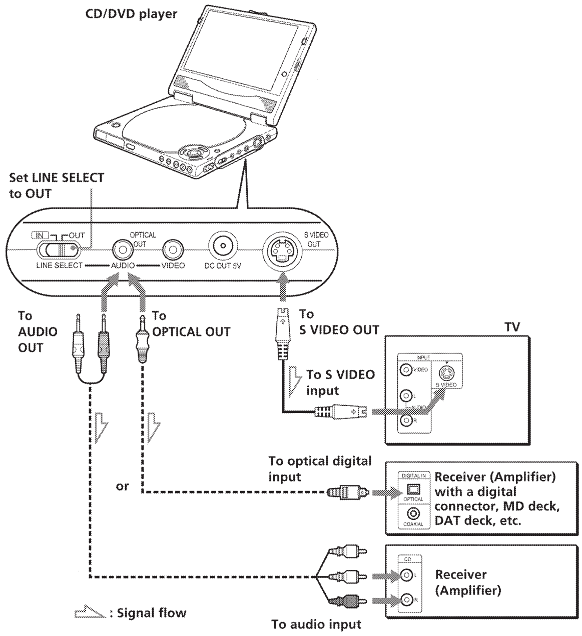
When connecting the cords, be sure to match the color-coded cord to the appropriate jacks on the components: Red (right) to Red and White (left) to White. Connect the Black jack of the audio/video connecting cord to AUDIO OUT (White) on the player. Be sure to make connections firmly to avoid hum and noise.

If you have a digital component such as a receiver (amplifier) with a digital connector, DAT or MD, connect the component via the OPTICAL OUT connector using an optical digital connecting cord (not supplied).

Optical digital connecting cord (not supplied) (1)

Optical mini-plug
Optical plug

continued


CD/DVD player
Set LINE SELECT to OUT
IN OUT
LINE SELECT
OPTICAL OUT
AUDIO
VIDEO
DC OUT 5V
S VIDEO OUT
To AUDIO OUT
To OPTICAL OUT
To S VIDEO OUT
TV
To S VIDEO input
To optical digital input
or
Receiver (Amplifier) with a digital connector, MD deck, DAT deck, etc.
DIGITAL IN
OPTICAL
COAXIAL
Receiver (Amplifier)
: Signal flow
To audio input

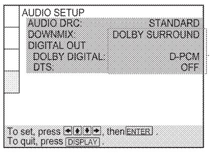
Note

You cannot enjoy a picture with an S video signal if your TV does not conform to the S video signal. When your TV does not have an S VIDEO input, connect the component via the VIDEO INPUT connector using the video connecting cord (not supplied) instead of the S video cord. For details, see page 17.
Refer to the instructions supplied with your TV.

Setups for the optical digital connection

- **To listen to the sound through speakers connected to a receiver (amplifier) which has a digital connector and lacks a built-in DTS or Dolby Digital decoder, or to output the sound to a digital component such as a DAT or MD deck**

  Set the "AUDIO SETUP" items in the setup display (page 91) as shown in the illustration below. These are the default settings.



```
AUDIO SETUP
  AUDIO DRC:                    STANDARD
  DOWNMIX:               DOLBY SURROUND
  DIGITAL OUT
    DOLBY DIGITAL:                 D-PCM
    DTS:                             OFF

To set, press ←↑↓→, then ENTER .
To quit, press DISPLAY .
```

Set the items as shown

If you have a digital component with a built-in DTS or Dolby Digital decoder

You can enjoy multi-channel surround sound by connecting the component via the OPTICAL OUT connector using an optical digital connecting cord (not supplied). For details on hookups and settings, see page 22.

Notes

When you have made the connections using an optical digital connecting cord, do not set "DOLBY DIGITAL" to "DOLBY DIGITAL" and "DTS" to "ON" in "DIGITAL OUT." If you do, a loud noise will suddenly come out from the speakers, affecting your ears or causing the speakers to be damaged.

- When you have made the connections using an optical digital connecting cord, set "VES" to "OFF" in the Control Menu display (page 60). Otherwise, the player will not output the Dolby Digital signals when you select "DIGITAL OUT" in "AUDIO SETUP" and set "DOLBY DIGITAL" to "D-PCM."
- When you have made the connections using an optical digital connecting cord and output the signals which do not reproduce the Dolby Surround (Pro Logic) effect, set "DOWNMIX" to "NORMAL" in "AUDIO SETUP" in the setup display.
- You cannot make digital audio recordings of discs recorded in multi-channel surround format directly using an MD deck or DAT deck.

5.1 Channel Surround Hookups

With DVDs which contain DTS or Dolby Digital sound, you can enjoy the surround sound while producing the effect of being in a movie theater or a concert hall using a digital component with a built-in DTS or Dolby Digital decoder (not supplied). The player outputs the surround sound signals from the OPTICAL OUT connector.

Using a receiver (amplifier) having the OPTICAL OUT connector and 6 speakers, you can enjoy even greater real audio presence in the comfort of your own home.

For DVP-FX1

Be sure to set the LINE SELECT switch to OUT.

Required cords

Optical digital connecting cord* (not supplied) (1)

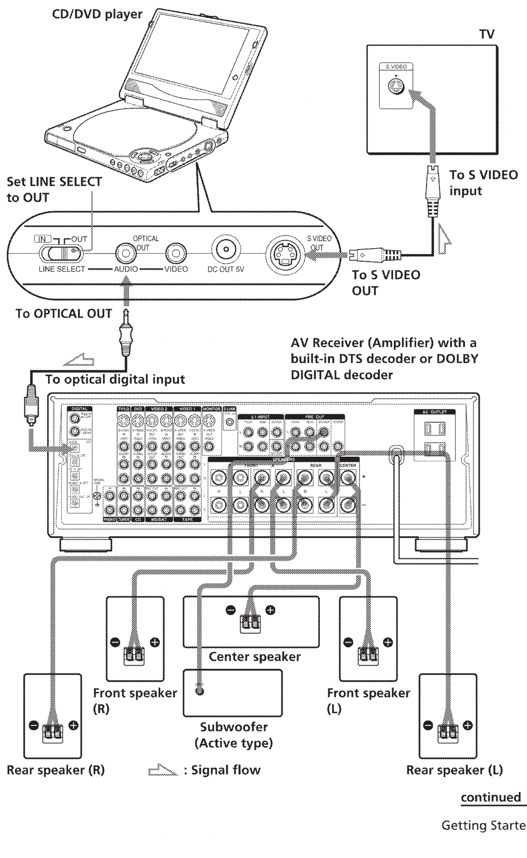
Optical mini-plug
Optical plug

S video cord (not supplied) (1)

* Connect the component via the OPTICAL OUT connector using an optical digital connecting cord (not supplied). See the figure on the next page.

Notes

- Do not connect the power cord to an AC outlet before completing all connections.
- Refer to the instructions supplied with the component to be connected.
- The cord connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.



continued

5.1 Channel Surround Hookups (continued)

Setups for the player

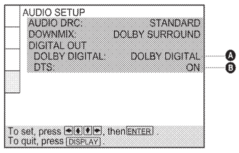
Some setup adjustments are necessary for the player depending on the components to be connected.
Use the setup display to change the various settings.

For details on using the setup display, see page 76.

- **When you connect an audio component with a built-in DOLBY DIGITAL decoder Ⓐ**

  Select "DOLBY DIGITAL" under "DIGITAL OUT" in the "AUDIO SETUP" display and set "DOLBY DIGITAL" to "DOLBY DIGITAL." (page 93)
- **When you connect an audio component with a built-in DTS decoder Ⓑ**

  Select "DTS" under "DIGITAL OUT" in the "AUDIO SETUP" display and set "DTS" to "ON." (page 93)



```
AUDIO SETUP
  AUDIO DRC:                    STANDARD
  DOWNMIX:               DOLBY SURROUND
  DIGITAL OUT
    DOLBY DIGITAL:         DOLBY DIGITAL ---- Ⓐ
    DTS:                              ON ---- Ⓑ

To set, press ←↑↓→, then ENTER .
To quit, press DISPLAY .
```

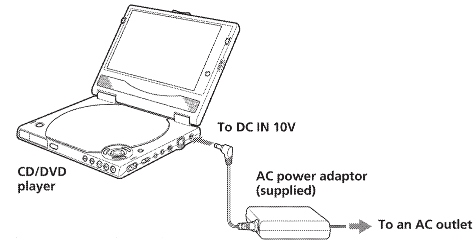
Notes

- **When you do not connect an audio component with a built-in DOLBY DIGITAL decoder, do not set "DOLBY DIGITAL" to "DOLBY DIGITAL."**
- **When you do not connect an audio component with a built-in DTS decoder, do not set "DTS" to "ON."**

Connecting the AC Power Adaptor

1 Connect the supplied AC power cord to the AC power adaptor.

2 Connect the AC power adaptor to the player and then plug the cord into the AC outlet.



You can attach a battery pack

See "Using the rechargeable battery pack" on the next page.

Note

When you disconnect the AC power cord, be sure to stop playback. Disconnecting the AC power cord during playback may cause a malfunction.

Using the Rechargeable Battery Pack

You can use the NP-FX1 rechargeable battery pack (supplied with DVP-FX1 only) to enjoy the player when an AC outlet is not available.

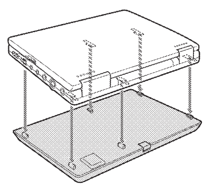
Battery life*

Model name	Playing time with		
	DVD VIDEO	VIDEO CD	AUDIO CD
DVP-FX1 (LCD screen: On)	4.5	4.5	4.5
DVP-FX1 (LCD screen: Off)	8.0	8.0	8.0
DVP-F5	8.0	8.0	8.0

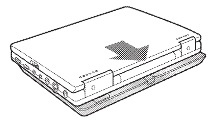
* Approximate hours when played continuously at room temperature (20°C) while:
- using the power saving function (DVP-FX1 only, page 90)
- using the headphones
- the brightness of the LCD screen is set to the lowest level (DVP-FX1 only, page 14)

Attaching the battery pack

1 Fit the hooks of the battery pack to the holes on the bottom of the player, as shown below.



2 Slide the player forward in the direction of the arrow until it clicks.



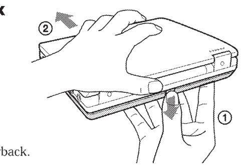
To prevent the buttons from being pressed accidentally

Turn the power off while attaching the battery pack.

Note

Do not touch the terminals on the unit and battery. Doing so may cause a malfunction.

Detaching the battery pack



Unlock the battery pack and slide the player.
Be careful not to drop the battery pack.

Note

Do not detach the battery pack during playback.

Charging the battery pack

After attaching the battery pack, connect the AC power adaptor, then charge the battery pack.

1 Attach the battery pack to the player.

2 Connect the AC power adaptor to the player and the plug into an AC outlet.

When charging starts, "CHG" appears on the display window.

3 Disconnect the AC power adaptor from the player and pull out the plug from the AC outlet after charging.

When charging is complete, "▰▰▰" appears on the display window. This process takes approximately 8 hours.

When to charge the battery pack

You can check the remaining power of the battery on the display window.

▰▰▰ ↓	Battery power is full.
▰▰ ↓ ▰ ↓	Battery power is getting low.
▭ ↓	Battery power is low.
Lo batt	Batteries are depleted.

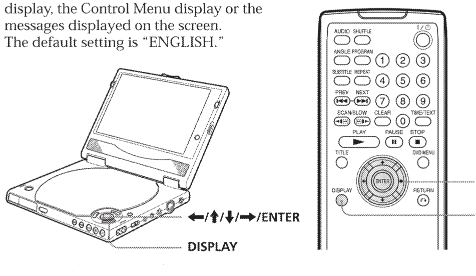
If "▭" flashes, connect the AC power adaptor to start charging the battery pack.

Notes

- If you turn on the player while charging, charging is suspended until you turn off the player.
- If you press ▷ while charging, charging is suspended and playback starts. Charging will resume when you turn off the player.
- If "▭" flashes while charging, there may be a problem with charging. Disconnect the AC power adaptor and detach the battery pack. Then attach the battery pack and connect the AC power adaptor to start charging again.

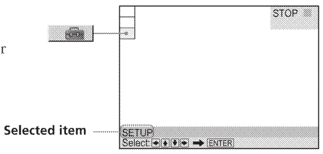
Selecting the Language for the On-Screen Display

You can select the language for the setup display, the Control Menu display or the messages displayed on the screen.
The default setting is "ENGLISH."



1 When the player is in stop mode, press DISPLAY and select "SETUP" using ↑/↓.

The on-screen menu items are different depending on whether there is a disc in the player or not.

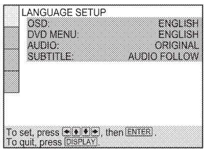


STOP

SETUP
Select: ←↑↓→ ➡ ENTER

2 Press ENTER.

The setup display appears on the screen.

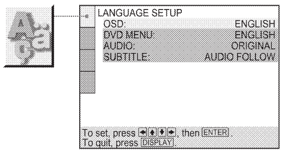


LANGUAGE SETUP

OSD:	ENGLISH
DVD MENU:	ENGLISH
AUDIO:	ORIGINAL
SUBTITLE:	AUDIO FOLLOW

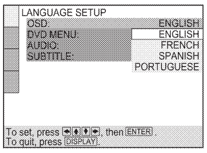
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

3 Select "LANGUAGE SETUP" using ↑/↓, and then press ENTER.

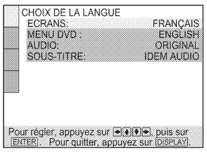

LANGUAGE SETUP
OSD: ENGLISH
DVD MENU: ENGLISH
AUDIO: ORIGINAL
SUBTITLE: AUDIO FOLLOW
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

4 Select "OSD" using ↑/↓, then press ➡ or ENTER.

The languages you can select are displayed.


LANGUAGE SETUP
OSD: ENGLISH
DVD MENU: ENGLISH
AUDIO: FRENCH
SUBTITLE: SPANISH
PORTUGUESE
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

5 Select the desired language using ↑/↓, then press ENTER.


CHOIX DE LA LANGUE
ECRANS: FRANÇAIS
MENU DVD : ENGLISH
AUDIO: ORIGINAL
SOUS-TITRE: IDEM AUDIO
Pour régler, appuyez sur ←↑↓→, puis sur ENTER. Pour quitter, appuyez sur DISPLAY.

6 Press DISPLAY.

The setup display disappears.

7 Press DISPLAY repeatedly to turn off the on-screen display.

To return to the previous screen

Press ↶RETURN.

To quit while making a selection

Press DISPLAY.

Note

The language you can select are the ones displayed in step 4. For details, see page 80.

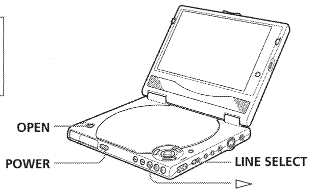
Playing discs

DVD VIDEO CD CD

Depending on the DVD or VIDEO CD, some operations may be different or restricted. Refer to the instructions supplied with your disc.

For DVP-FX1

Be sure to set the LINE SELECT switch to OUT.



1 Press POWER to turn on the player.

The display window lights up.
When using the AC power adaptor, you can turn on the player with I/⏻ on the remote.

When connecting the player to a TV

Turn on the TV and select the video input so that you can view the pictures from this player.

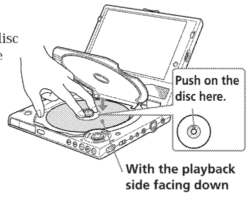
When using a receiver (amplifier)

Turn on the receiver (amplifier) and select the appropriate position so that you can listen to the sound from this player.

2 Press OPEN to open the lid.

3 Insert a disc horizontally.

Push down the center of the disc gently with two fingers. Make sure the disc clicks into the position.



4 Close the lid, then press ▷.

The player starts playback (continuous play). Adjust the volume on the player, the TV or the receiver (amplifier).

After following Step 4

- ■ When playing a DVD
  A DVD menu or title menu may appear on the screen (see page 37).
- ■ When playing a VIDEO CD
  A menu screen may appear on the screen depending on the VIDEO CD. You can play the disc interactively, following the instructions on the menu screen. (PBC Playback, see page 39.)

When using the battery pack

Normally you cannot use the remote to turn on the player. However, within 10 minutes after having turned off the player with the remote, you can use the remote to turn on the player.

Notes on playing DTS sound tracks on a CD

- Do not play DTS sound tracks without first connecting the player to an audio component having a built-in DTS decoder. The player outputs the DTS signal even if "DTS" in "DIGITAL OUT" is set to "OFF" in "AUDIO SETUP" in the setup display, and may affect your ears or cause your speakers to be damaged.
- Set the sound to "STEREO" when you play DTS sound tracks on a CD. (See "Changing the Sound" on page 54.) If you have made the connections using an optical digital connecting cord and set the sound to "1/L" or "2/R," no sound will come out.
- If you have made the connections using an audio connecting cord and play a CD with a DTS sound track, a loud noise may come out, affecting your ears or causing the speakers to be damaged.

Notes on playing DTS sound tracks on a DVD

The signals of the DTS sound tracks are output only when you have made the connections using an optical digital connecting cord. No sound will be output when you have made the connections using an audio connecting cord.

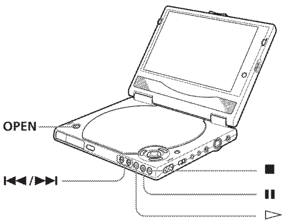
- If the player is connected to an audio component lacking a built-in DTS decoder, do not set "DTS" in "DIGITAL OUT" to "ON" in "AUDIO SETUP" in the setup display. Otherwise, when you play the DTS sound track, a loud noise will come out from the speakers, affecting your ears or causing the speakers to be damaged.
- When you set "DTS" in "DIGITAL OUT" to "OFF," no sound will come out even if you have made the connections using an optical digital connecting cord and play DTS sound tracks on DVDs.

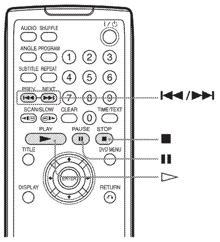
Notes

- If you leave the player or the remote in pause or stop mode for 15 minutes, the screen saver image appears automatically. To make the screen saver image go away, press ▷. (If you want to set the screen saver function to off, see page 84.)
- While playing a disc, do not turn off the player. Doing so may cancel the settings of the menu. When you turn off the player, press ■ first to stop playback and then press POWER.
- The power is automatically turned off whenever,
  - a disc is not being played.
  - you do not operate the player or the remote for more than 30 minutes.

Playing Discs (continued)

Additional operations





To	Operation
Stop	Press ■
Pause	Press ❚❚
Resume playback after pause	Press ❚❚ or ▷
Go to the next chapter, track or scene in continuous play mode	Press ▶▶|
Go back to the preceding chapter, track or scene in continuous play mode	Press |◀◀
Stop play and remove the disc	Press OPEN

You can play discs in various modes such as Program Play using the on-screen menu (Control Menu). For Control Menu operations, see page 45.

Searching for a Particular Point on a Disc DVD VIDEO CD CD

You can locate a particular point on a disc quickly by monitoring the picture or playing back slowly.

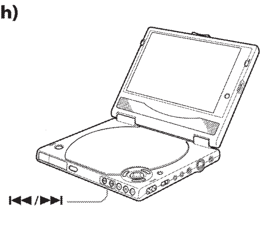
Note

Depending on the DVD/VIDEO CD, you may not be able to do some of the operations described.

Locating a point quickly (Search)

While a disc is playing, keep ►►I pressed on the player to locate a point in playback direction at the FF1►►* speed or keep I◄◄ pressed on the player to locate a point in opposite direction at the FR1◄◄* speed. When you find the point you want, release the button to return to normal playback speed.

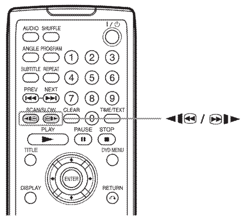
* The FF1►►/FR1◄◄ playback speed is one of the scan speed described on the next page.



Locating a point quickly by playing a disc in fast forward or fast reverse (Scan)

While a disc is playing, press ⏩❚► to locate a point in the playback direction, or press ◄❚⏪ to locate a point in the opposite direction. When you find the point you want, press ▷ to return to normal playback speed.

Each time you press the ◄❚⏪ or ⏩❚► button during Speed scan, the playback speed changes. Three speeds are available. With each press, the display changes as follows:


AUDIO
SHUFFLE
I/⏻
ANGLE
PROGRAM
SUBTITLE
REPEAT
PREV
NEXT
SCAN/SLOW
CLEAR
TIME/TEXT
PLAY
PAUSE
STOP
TITLE
DVD MENU
ENTER
DISPLAY
RETURN
◄❚⏪ / ⏩❚►

Playback direction

×2► (DVD/CD only) → FF1►► → FF2►►

Opposite direction

×2◄ (DVD only) → FR1◄◄ → FR2◄◄

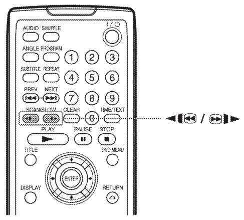
The ×2►/×2◄ playback speed is about twice the normal speed.
The FF2►►/FR2◄◄ playback speed is faster than FF1►►/FR1◄◄.

Locating a point slowly by watching the screen (Slow-motion play) DVD VIDEO CD

You can use this function only for DVDs or VIDEO CDs.

When the player is in the pause mode, press ⏩❚► to locate a point in the playback direction, or press ◄❚⏪ to locate a point in the opposite direction. When you find the point you want, press ▷ to return to the normal playback speed.

Each time you press the ◄❚⏪ or ⏩❚► button during Slow-motion play, the playback speed changes. Two speeds are available. With each press, the indication changes as follows:


AUDIO
SHUFFLE
I/⏻
ANGLE
PROGRAM
SUBTITLE
REPEAT
PREV
NEXT
SCAN/SLOW
CLEAR
TIME/TEXT
PLAY
PAUSE
STOP
TITLE
DVD MENU
ENTER
DISPLAY
RETURN
◄❚⏪ / ⏩❚►

Playback direction

SLOW2❚► ↔ SLOW1❚►

Opposite direction (DVD only)

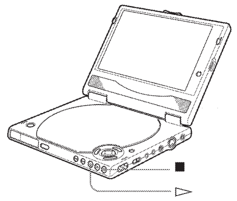
SLOW2◄❚ ↔ SLOW1◄❚

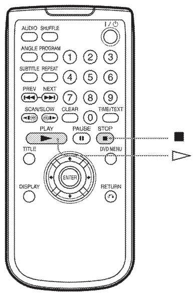
The SLOW2❚►/SLOW2◄❚ playback speed is slower than SLOW1❚►/SLOW1◄❚.

Resuming Playback from the Point Where You Stopped the Disc (Resume Play) DVD VIDEO CD CD

The player remembers the point where you stopped the disc, and when "RESUME" appears on the display window, you can resume playback from that point.

As long as you do not open the lid, Resume Play will work even if you press POWER.




AUDIO
SHUFFLE
I/⏻
ANGLE
PROGRAM
SUBTITLE
REPEAT
PREV
NEXT
SCAN/SLOW
CLEAR
TIME/TEXT
PLAY
PAUSE
STOP
TITLE
DVD MENU
ENTER
DISPLAY
RETURN
■
▷

1 While playing a disc, press ■ to stop playback.

"RESUME" appears on the display window and "Disc will restart from current point. To start from beginning, press STOP again." appears on the screen.

If "RESUME" does not appear, Resume Play is not available.

2 Press ▷.

The player starts playback from the point where you stopped the disc in Step 1.

To play from the beginning of the disc

When the playing time appears on the display window before you start playing, press ■ to reset the playing time, then press ▷.

continued

Notes

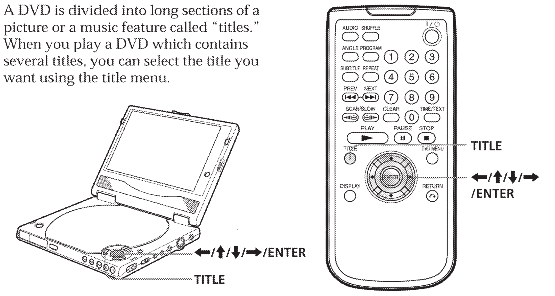
- Resume Play may not be available on some DVDs.
- Resume Play is not available in Shuffle or Program Play mode.
- Depending on where you stopped the disc, the player may resume playback from a different point.
- The point where you stopped playing is cleared when:
  - you open the lid
  - you change the play mode
  - you start playback after selecting a title, chapter or track
  - you change the settings in the setup display
  - you disconnect the AC power adaptor
  - you detach the battery pack

Using the DVD's Menu DVD

Some DVDs have a title menu or a DVD menu that is provided with DVDs only.

Using the title menu

A DVD is divided into long sections of a picture or a music feature called "titles." When you play a DVD which contains several titles, you can select the title you want using the title menu.



1 Press TITLE.
The title menu appears on the screen.
The contents of the menu vary from disc to disc.

2 Press ←/↑/↓/→ to select the title you want to play.
Depending on the disc, you can use the number buttons to select the title.

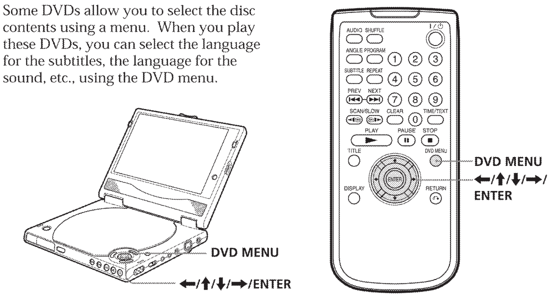
3 Press ENTER.
The player starts playing the selected title.

Notes
- On some DVDs, you may not be able to select the title.
- On some DVDs, a "title menu" may simply be called a "menu" or "title " in the instructions supplied with the disc. "Press ENTER." may also be expressed as "Press SELECT."

Using the DVD's Menu (continued)

Using the DVD menu

Some DVDs allow you to select the disc contents using a menu. When you play these DVDs, you can select the language for the subtitles, the language for the sound, etc., using the DVD menu.



1 Press DVD MENU.
The DVD menu appears on the screen.
The contents of the menu vary from disc to disc.

2 Press ←/↑/↓/→ to select the item you want to change.
Depending on the disc, you can use the number buttons to select the item.

3 To change other items, repeat Step 2.

4 Press ENTER.

💡 **If you want to select the language for the DVD menu**
Change the setting using "DVD MENU" in "LANGUAGE SETUP" in the setup display. For details, see page 80.

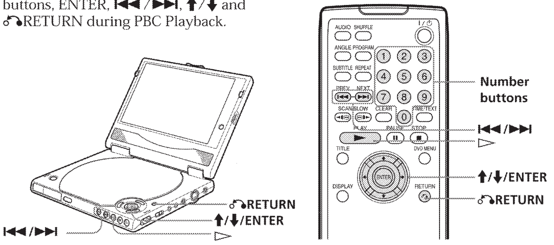
Note
Depending on the DVD, a "DVD menu" may simply be called a "menu" in the instructions supplied with the disc.

Playing VIDEO CDs with PBC Functions (PBC Playback) VIDEO CD

When playing VIDEO CDs with PBC (Play Back Control) functions (Ver. 2.0 discs), you can enjoy simple interactive operations, search functions, and other such operations.

PBC Playback allows you to play VIDEO CDs interactively by following the menu on the screen.

On this player, you can use the number buttons, ENTER, ⏮/⏭, ↑/↓ and ↩RETURN during PBC Playback.



1 Start playing a VIDEO CD with PBC functions by following Steps 1 to 4 in "Playing Discs" on page 30.

2 Select the item number you want.
Press ↑/↓ to select the item number.
You can also select the item number with the number buttons on the remote.

3 Press ENTER.

4 Follow the instructions in the menu for interactive operations.
Refer to the instructions supplied with the disc, as the operating procedure may differ according to the VIDEO CD.

continued

Playing VIDEO CDs with PBC Functions (PBC Playback) (continued)

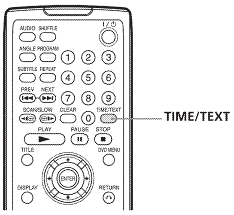
To go back to the menu
Press ↩RETURN, ⏮ or ⏭.

💡 **To cancel PBC playback of a VIDEO CD with PBC functions and play the disc in continuous play mode**
There are two ways.
- Before you start playing, select the track you want using ⏮ or ⏭, then press ENTER or ▷.
- Before you start playing, select the track number using the number buttons on the remote, then press ENTER or ▷.
  "Play without PBC." appears on the TV screen and the player starts continuous play. You cannot play still pictures such as a menu.
  To return to PBC playback, press ■ twice then press ▷.

Note
Depending on the VIDEO CD, "Press ENTER" in Step 3 may be expressed as "Press SELECT" in the instructions supplied with the disc.

Using the Display Window

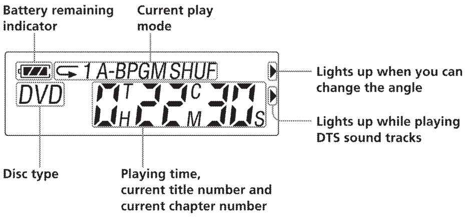
DVD VIDEO CD CD



You can check information about the disc, such as the total number of titles or tracks or remaining time, using the display window.

When playing back a DVD DVD

Displaying information while playing the disc

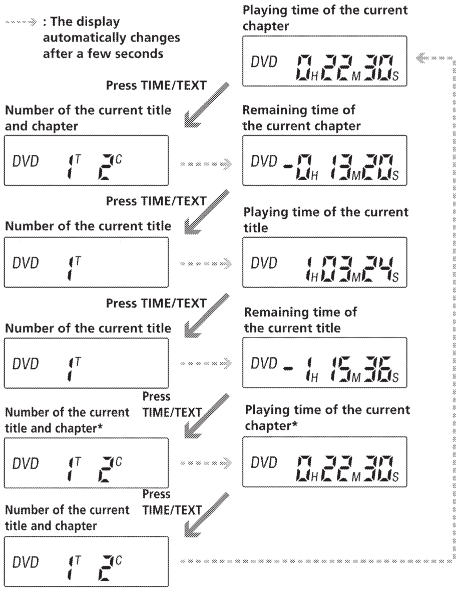

Battery remaining indicator
Current play mode
1 A-BPGM SHUF
DVD
0H22M30S
Lights up when you can change the angle
Lights up while playing DTS sound tracks
Disc type
Playing time, current title number and current chapter number

---

Checking the remaining time

Press TIME/TEXT.

Each time you press TIME/TEXT while playing the disc, the display changes as shown in the following chart.


: The display automatically changes after a few seconds
Playing time of the current chapter
DVD 0H22M30S
Press TIME/TEXT
Number of the current title and chapter
DVD 1T 2C
Remaining time of the current chapter
DVD -0H13M20S
Press TIME/TEXT
Number of the current title
DVD 1T
Playing time of the current title
DVD 1H03M24S
Press TIME/TEXT
Number of the current title
DVD 1T
Remaining time of the current title
DVD -1H15M36S
Number of the current title and chapter*
Press TIME/TEXT
DVD 1T 2C
Playing time of the current chapter*
DVD 0H22M30S
Number of the current title and chapter
Press TIME/TEXT
DVD 1T 2C

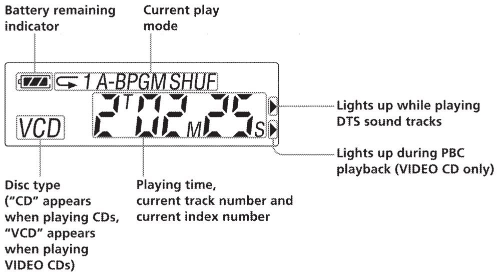
* The DVD TEXT is displayed on the screen.

Notes

- On some DVDs, the chapter number or time may not appear or you may not be able to change the display window.
- While you are doing Shuffle Play or Program Play, the playing time of the title and the remaining time of the title are not displayed.

When playing back a CD/VIDEO CD VIDEO CD CD

Displaying information while playing the disc


Battery remaining indicator
Current play mode
1 A-BPGM SHUF
VCD
2T 02M25S
Lights up while playing DTS sound tracks
Lights up during PBC playback (VIDEO CD only)
Disc type ("CD" appears when playing CDs, "VCD" appears when playing VIDEO CDs)
Playing time, current track number and current index number

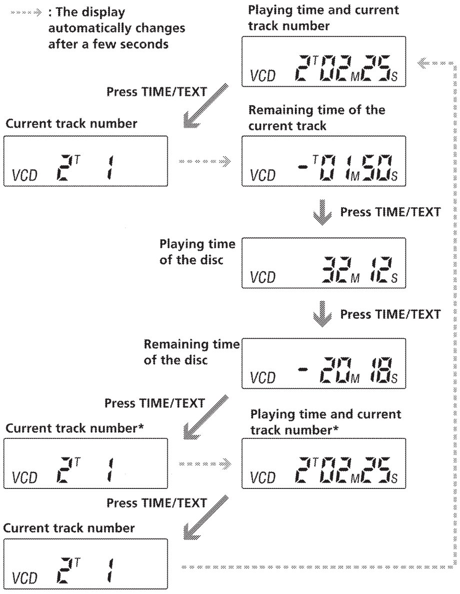
When playing VIDEO CDs with PBC functions

The current scene number is displayed instead of the current track number and the current index number. In this case, the display window does not change when you press TIME/TEXT (see page 51).

Checking the remaining time

Press TIME/TEXT.

Each time you press TIME/TEXT while playing a disc, the display changes as shown in the following chart.


: The display automatically changes after a few seconds
Playing time and current track number
VCD 2T 02M25S
Press TIME/TEXT
Current track number
VCD 2T 1
Remaining time of the current track
VCD -T 01M50S
Press TIME/TEXT
Playing time of the disc
VCD 32M 12S
Press TIME/TEXT
Remaining time of the disc
VCD -20M 18S
Press TIME/TEXT
Current track number*
VCD 2T 1
Playing time and current track number*
VCD 2T 02M25S
Press TIME/TEXT
Current track number
VCD 2T 1

* The CD TEXT is displayed on the screen.

Note

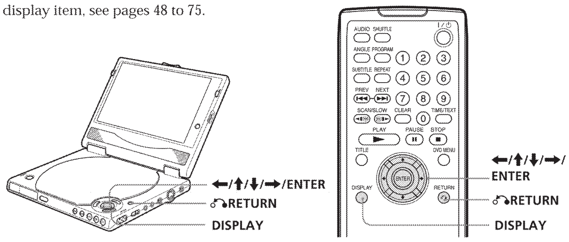
While you are doing Shuffle Play, or Program Play, the playing time of the disc and the remaining time of the disc are not displayed.

Using the Control Menu Display

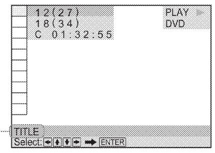
DVD VIDEO CD CD

Using the Control Menu display, you can select the starting point, play scenes in any order you like, change the viewing angles, make Digital Cinema Sound settings, and other such operations.
The possible operations are different depending on the kind of disc.

For details on each Control Menu display item, see pages 48 to 75.

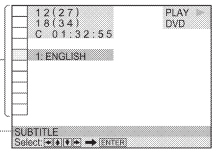

←/↑/↓/→/ENTER
↺RETURN
DISPLAY
←/↑/↓/→/
ENTER
↺RETURN
DISPLAY

1 Press DISPLAY to show the Control Menu display on the screen.


1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
TITLE
Select: ←↓↑→ ➡ ENTER

Current Item

2 Select the item you want using ↑/↓.


1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
1: ENGLISH
SUBTITLE
Select: ←↓↑→ ➡ ENTER

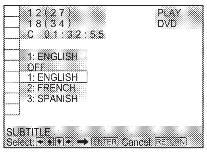
Items

Selected item

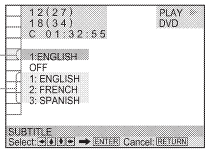
continued

---

3 Press ENTER.


1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
1: ENGLISH
OFF
1: ENGLISH
2: FRENCH
3: SPANISH
SUBTITLE
Select: ←↓↑→ ➡ ENTER Cancel: RETURN

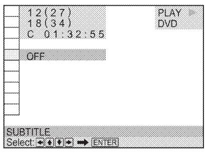
4 Select the item you want using ↑/↓.


1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
1: ENGLISH
OFF
1: ENGLISH
2: FRENCH
3: SPANISH
SUBTITLE
Select: ←↓↑→ ➡ ENTER Cancel: RETURN

Selected item

Items

5 Press ENTER.


1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
OFF
SUBTITLE
Select: ←↓↑→ ➡ ENTER

To cancel while making a selection

Press ↺RETURN.

To display other items

Each time you press DISPLAY, the Control Menu display changes as follows:

Control Menu display 1

↓

Control Menu display 2

(The items except the first three items from the top are changed to other items.)

↓

ADVANCED display (see page 63)

↓

Control Menu display off

The Control Menu display items are different depending on the discs.

You can select some items directly

Some items can be selected by pressing the corresponding button on the remote. In this case, only the item you selected is displayed. For instructions on using the remote, see the pages of each relevant item.

Note

Some Control Menu display items require operations other than selecting the setting. For details on these items, see the relevant pages.

Control Menu Item List

TITLE (DVD only) (page 50)/

SCENE (VIDEO CD during PBC playback only) (page 50)/

TRACK (VIDEO CD only) (page 50)

CHAPTER (DVD only) (page 50)/

INDEX (VIDEO CD only) (page 50)

TRACK (CD only) (page 50)

INDEX (CD only) (page 50)

You can search for a point on the DVD by selecting the title, chapter, track, index or scene.

TIME/TEXT (pages 51 to 53)

You can check the playing time and remaining time of the current title, chapter, track and the total playing time or remaining time of the disc.

You can also search by inputting the time code.

You can check the DVD TEXT or CD TEXT of the disc on the screen.

AUDIO (page 54)

If the DVD is recorded with multilingual tracks, you can select the language you want while playing the DVD.

If the DVD is recorded in multiple audio formats (PCM, Dolby Digital or DTS), you can select the audio format you want while playing the DVD.

With multiplex CDs or VIDEO CDs, you can select the sound from the right or left channel and listen to the sound of the selected channel through both the right and left speakers.

SUBTITLE (DVD only) (page 57)

With DVDs on which multilingual subtitles are recorded, you can change the subtitle language whenever you want while playing the DVD, and turn it on or off whenever you want.

ANGLE (DVD only) (page 58)

With DVDs on which various angles (multi-angles) are recorded, you can change the angle of the scene.

VES (DVD only) (page 60)

Select a mode to enjoy multichannel surround sound such as Dolby Digital.

Even if you connect only front speakers, Virtual Enhanced Surround (VES) lets you enjoy 3D sound by using 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers.

ADVANCED (DVD only) (page 63)

You can check play information about the bit rate or the position where the disc is being played (layer).

CUSTOM PARENTAL CONTROL (page 65)

Using the registered password, you can set playback restrictions for a desired disc.

The same password is used for both Parental Control (page 85) and Custom Parental Control.

SETUP (page 76)

Using the setup display, you can do the initial setup, adjust the picture and sound and set the various outputs. You can also set a language for the subtitles and the setup display, limit playback by children, and so on. For details about the setup display, see page 76.

PROGRAM (page 68)

You can play the contents of the disc in the order you want by arranging the order of the titles, chapters or tracks on the disc to create your own program.

SHUFFLE (page 72)

You can have the player "shuffle" titles, chapters or tracks and play them in a random order. Subsequent "shuffling" may produce a different playing order.

REPEAT (page 73)

You can play all the titles/tracks on a disc or a single title/chapter/track repeatedly.

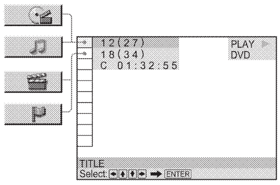
A-B REPEAT (page 74)

You can play a specific portion of a title, chapter, or track repeatedly.

Searching for a Title/Chapter/Track/Index/Scene DVD VIDEO CD CD

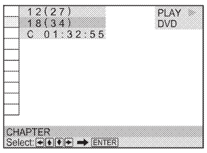
You can search the disc by title, chapter, track, index or scene.

Select "TITLE," " CHAPTER," "TRACK," "INDEX" or "SCENE" after pressing DISPLAY.
When you play back a DVD, "TITLE" and "CHAPTER" are displayed.
When you play back a VIDEO CD/CD, "TRACK" and "INDEX" are displayed.
When you play back a VIDEO CD with PBC functions, "SCENE" is displayed.



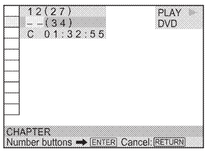
1 Select "TITLE," "CHAPTER," "TRACK," "INDEX" or "SCENE" using ↑/↓.

"✻✻(✻✻)" is highlighted. (✻✻ refers to a number) The number in parentheses indicates the total number of titles, chapters, tracks, indexes or scenes.



2 Press ➡ or ENTER.

"✻✻(✻✻)" changes to "— —(✻✻)".



3 Select the number of the title, chapter, track, index or scene you want to search for using the number buttons, then press ENTER.

The player starts playback at the selected number.
To cancel the number, press CLEAR before pressing ENTER.

To cancel while making a selection

Press ↶RETURN.

Notes

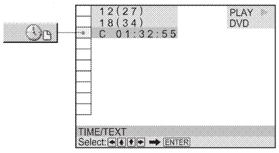
- The title, chapter or track number displayed is the same number recorded on the disc.
- The index numbers are not displayed during PBC playback of VIDEO CDs.

Checking the Playing Time and Remaining Time DVD VIDEO CD CD

You can check the playing time and remaining time of the current title, chapter or track and the total playing time or remaining time of the disc.

Press DISPLAY. Then press TIME/TEXT on the remote to change the time information.

You can also check the DVD TEXT or CD TEXT. See page 53.



When playing a DVD

■ TIME/TEXT

- C ✻✻:✻✻:✻✻: Playing time of the current chapter
- C –✻✻:✻✻:✻✻: Remaining time of the current chapter
- T ✻✻:✻✻:✻✻: Playing time of the current title
- T –✻✻:✻✻:✻✻: Remaining time of the current title

When playing a VIDEO CD (during PBC playback)

■ TIME/TEXT

•✻✻:✻✻: Playing time of the current scene

When playing a VIDEO CD (in continuous play) or CD

■ TIME/TEXT

- T ✻✻:✻✻: Playing time of the current track
- T –✻✻:✻✻: Remaining time of the current track
- D ✻✻:✻✻: Playing time of the current disc
- D –✻✻:✻✻: Remaining time of the current disc

You can select "TIME/TEXT" directly

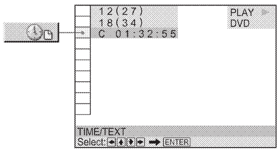
Press TIME/TEXT on the remote. Each time you press the button, the time information changes.

Selecting a Starting Point Using the Time Code DVD

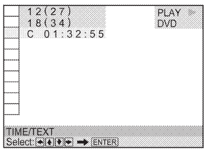
You can search for a starting point by inputting the time code.

Select "TIME/TEXT" after pressing DISPLAY.

The time code corresponds to the approximate actual playing time. For example, to search for a scene 2 hours 10 minutes 20 seconds past the beginning, input 2:10:20.

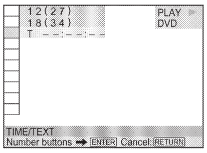


1 Select "C ✻✻:✻✻:✻✻" (playing time of the current chapter) when playing a DVD.



2 Press ➡ or ENTER.

Time code changes to "T - - : - - : - -".



3 Input the time code using the number buttons, then press ENTER.

The player starts playing at the selected time code.
To cancel the number, press CLEAR before pressing ENTER.

To cancel while making a selection

Press ↶RETURN.

Note

When you input the time code, input the playing time of the title, not the chapter or track time.

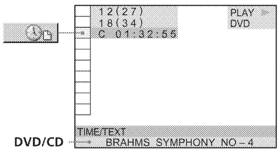
Viewing the Disc Information

DVD VIDEO CD CD

You can check the DVD TEXT or CD TEXT of the disc on the screen. DVD TEXT and CD TEXT are information recorded on the disc which you cannot change.

Press DISPLAY. Then press TIME/TEXT on the remote until DVD/CD TEXT is displayed.

The information is displayed at the bottom of the display. As DVD/CD text is not scrolled, some characters may not be displayed.


1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
TIME/TEXT
BRAHMS SYMPHONY NO – 4

DVD/CD TEXT

You can select "TIME/TEXT" directly
Press TIME/TEXT on the remote. To display DVD/CD TEXT, press TIME/TEXT until DVD/CD TEXT is displayed.

Notes

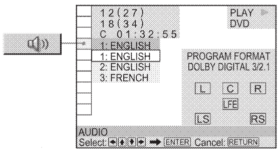
- DVD TEXT is displayed only in English.
- "NO TEXT" appears when the DVD/CD TEXT is not recorded on the disc.
- This player can only display the first level of DVD/CD TEXT information.
- When the DVD/CD TEXT is displayed, the operation guide does not appear.

Changing the Sound DVD VIDEO CD CD

If the DVD is recorded with multilingual tracks, you can select the language you want while playing the DVD.
If the DVD is recorded in multiple audio formats (PCM, Dolby Digital or DTS), you can select the audio format you want while playing the DVD.

With multiplex CDs or VIDEO CDs, you can select the sound from the right or left channel and listen to the sound of the selected channel through both the right and left speakers. In this case, the sound loses its stereo effect. For example, with a disc containing a song, the right channel may output the vocals and the left channel may output the instrumental. If you only want to hear the instrumental, you can select the left channel and hear it from both speakers.

Select "AUDIO" after pressing DISPLAY.


1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
1: ENGLISH
1: ENGLISH
2: ENGLISH
3: FRENCH
PROGRAM FORMAT
DOLBY DIGITAL 3/2.1
L
C
R
LFE
LS
RS
AUDIO
Select: ENTER Cancel: RETURN

■ AUDIO

When playing a DVD

Select the language. The languages you can select are different depending on the DVD. When 4 digits are displayed, they represent the language code. Select the language code from the list on page 110.

When the same language is displayed two or more times, the DVD is recorded in multiple audio formats. The current audio format is shown on the "PROGRAM FORMAT" display.

When playing a VIDEO CD or a CD

The default setting is underlined.

- STEREO : The standard stereo sound
- 1/L : The sound of the left channel (monaural)
- 2/R : The sound of the right channel (monaural)

You can select "AUDIO" directly
Press AUDIO on the remote. Each time you press the button, the item changes.

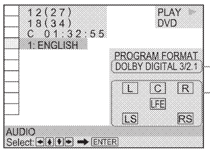
Notes

- Depending on the DVD, you may not be able to change the languages even if multilingual tracks are recorded on the DVD.
- While playing the CD/VIDEO CD, standard stereo playback will be resumed when:
  - you open the lid
  - you turn the power off
- While playing the DVD, the sound may be changed when:
  - you open the lid
  - you change the title
  - you disconnect the AC power adaptor
  - you detach the battery pack

Displaying the audio information of the disc DVD

When you select "AUDIO," the channels being played are displayed on the screen.

For example, in Dolby Digital format, multiple signals ranging from monaural to 5.1 channel signals can be recorded on a DVD. Depending on the DVD, the number of the recorded channels may be different.

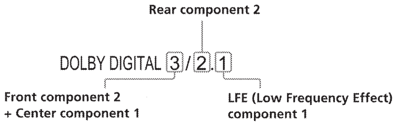

1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
1: ENGLISH
PROGRAM FORMAT
DOLBY DIGITAL 3/2.1
L
C
R
LFE
LS
RS
AUDIO
Select: ENTER

Current audio format*

Current playing program format**

* "PCM," "DTS" or "DOLBY DIGITAL" is displayed. In case of "DOLBY DIGITAL," the channels in the playing track are displayed by numbers as follows:

For Dolby Digital 5.1 ch:


Rear component 2
DOLBY DIGITAL 3/2.1
Front component 2
+ Center component 1
LFE (Low Frequency Effect)
component 1

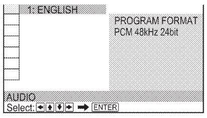
** The letters in the program format display mean the following:

L:	Front (left)
R:	Front (right)
C:	Center (monaural)
LS:	Rear (left)
RS:	Rear (right)
S:	Rear (monaural) – the rear component of the Dolby Surround processed stereo signal and the Dolby Digital signal.
LFE:	– LFE (Low Frequency Effect)

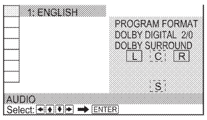
continued

The display examples are as follows:

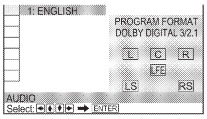
- PCM (stereo)


1: ENGLISH
PROGRAM FORMAT
PCM 48kHz 24bit
AUDIO
Select: ENTER

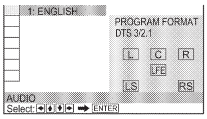
- Dolby Surround


1: ENGLISH
PROGRAM FORMAT
DOLBY DIGITAL 2/0
DOLBY SURROUND
L
C
R
S
AUDIO
Select: ENTER

- Dolby Digital 5.1ch
  "LFE" appears only when a disc contains an LFE signal component. "LFE" remains on the "PROGRAM FORMAT" display even if the LFE signal component is not being output.


1: ENGLISH
PROGRAM FORMAT
DOLBY DIGITAL 3/2.1
L
C
R
LFE
LS
RS
AUDIO
Select: ENTER

- DTS
  "LFE" is always enclosed in a solid line regardless of the LFE signal component being output.

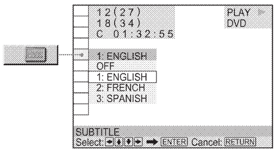

1: ENGLISH
PROGRAM FORMAT
DTS 3/2.1
L
C
R
LFE
LS
RS
AUDIO
Select: ENTER

Note
When the signal does not contain rear signal components such as LS, RS or S, the Virtual Enhanced Surround (VES) effect cannot be heard (page 60).

Displaying the Subtitles DVD

With DVDs on which subtitles are recorded, you can turn the subtitles on and off whenever you want while playing the DVD.
With DVDs on which multilingual subtitles are recorded, you can change the subtitle language whenever you want while playing the DVD, and turn it on or off whenever you want. For example, you can select the language you want to practice and turn the subtitles on for better understanding.

Select "SUBTITLE" after pressing DISPLAY.


12(27)
18(34)
C 01:32:55
PLAY
DVD
1: ENGLISH
OFF
1: ENGLISH
2: FRENCH
3: SPANISH
SUBTITLE
Select: ENTER Cancel: RETURN

■ SUBTITLE

Select the language. The languages you can select are different depending on the DVD. When 4 digits are displayed, they indicate the language code. Select the language code from the list on page 110.

You can select "SUBTITLE" directly

Press SUBTITLE on the remote. Each time you press the button, the item changes.

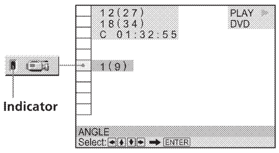
Notes

- When playing a DVD on which no subtitles are recorded, no subtitles appear.
- Depending on the DVD, you may not be able to turn the subtitles on even if they are recorded on the DVD.
- Depending on the DVD, you may not be able to turn the subtitles off.
- The type and number of languages for subtitles vary from disc to disc.
- Depending on the DVD, you may not be able to change the subtitles even if multilingual subtitles are recorded on it.
- While playing the DVD, the subtitle may change when:
  - you open the lid
  - you change the title
  - you disconnect the AC power adaptor
  - you detach the battery pack

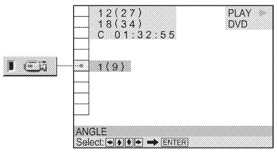
Changing the Angles DVD

With DVDs on which various angles (multi-angles) for a scene are recorded, you can change the angles. For example, while playing a scene of a train in motion, you can display the view from either the front of the train, the left window of the train or from the right window without having the train's movement interrupted.

Select "ANGLE " after pressing DISPLAY. When the angles can be changed, the "ANGLE " indicator lights up in green.

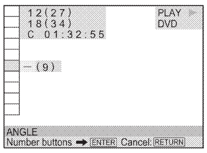

Indicator
12(27)
18(34)
C 01:32:55
PLAY
DVD
1(9)
ANGLE
Select: ENTER

1 Select "ANGLE."


12(27)
18(34)
C 01:32:55
PLAY
DVD
1(9)
ANGLE
Select: ENTER

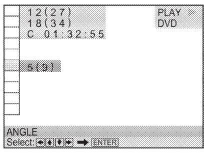
2 Press ➡.

The number of the angle changes to "–". The number in parentheses indicates the total number of angles.


12(27)
18(34)
C 01:32:55
PLAY
DVD
– (9)
ANGLE
Number buttons ENTER Cancel: RETURN

3 Select the angle number using the number buttons or ↑/↓, then press ENTER.

The angle is changed to the selected angle.


12(27)
18(34)
C 01:32:55
PLAY
DVD
5(9)
ANGLE
Select: ENTER

You can select "ANGLE" directly

Press ANGLE on the remote. Each time you press the button, the angle changes.

Notes

- The number of angles varies from disc to disc or from scene to scene. The number of angles that can be changed on a scene is equal to the number of angles recorded for that scene.
- Depending on the DVD, you may not be able to change the angles even if multi-angles are recorded on the DVD.

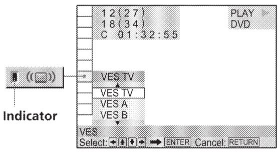
Digital Cinema Sound Settings DVD

Select a mode to enjoy multichannel surround sound such as Dolby Digital.
Even if you connect only a stereo TV or front speakers, Virtual Enhanced Surround (VES) lets you enjoy 3D sound by using 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers.

The surround sound signals are output when you have made the connections using an audio connecting cord.

When you have made the connections using an optical digital connecting cord and select a surround mode, the player does not output the Dolby Digital signals when you select "DOLBY DIGITAL" under "DIGITAL OUT" in the "AUDIO SETUP"display and set "DOLBY DIGITAL" to "D-PCM."

Select "VES" after pressing DISPLAY.
When you select any item except "OFF," the "VES" indicator lights up in green.


Indicator
12(27)
18(34)
C 01:32:55
PLAY
DVD
VES TV
VES TV
VES A
VES B
VES
Select: ENTER Cancel: RETURN

■ VES

Select the desired item. For details on each item, see "Effects of each item." The default setting is underlined.

- OFF
- VES TV
- VES A
- VES B
- VIRTUAL SEMI MULTI DIMENSION

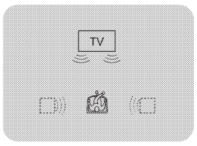
Effects of each item

OFF

Outputs 2-channel signals for stereo sound. 5-channel signals for Dolby Digital sound of a DVD are mixed down to 2-channels.

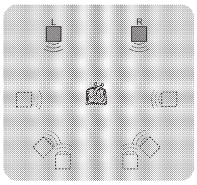
VES (Virtual Enhanced Surround) TV

Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers. This mode is effective when the distance between the front L and R speakers is short, such as built-in speakers on a stereo TV.



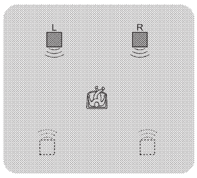
VES (Virtual Enhanced Surround) A

Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers. The virtual speakers are reproduced as shown in the illustration on the right.



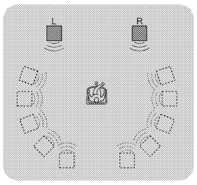
VES (Virtual Enhanced Surround) B

Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers. The virtual speakers are reproduced as shown in the illustration on the right.



VIRTUAL SEMI MULTI DIMENSION

Uses 3D sound imaging to create virtual rear speakers from the sound of the front speakers (L, R) without using actual rear speakers. This mode creates 5 sets of virtual speakers surrounding the listener at a 30° angle of elevation.



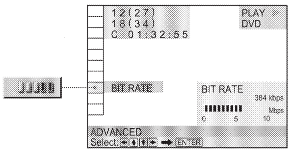
Notes

- When you select an item, the sound cuts off for a moment.
- When the playing signal does not contain the surround component, the effects may be difficult to hear even if you select "VES TV," "VES A," "VES B" or "VIRTUAL SEMI MULTI DIMENSION."
- Set the front speakers to form an equilateral triangle with the listening position at the top, or the effects may be difficult to hear even if you select "VES A," "VES B" or "VIRTUAL SEMI MULTI DIMENSION."
- When you select "VES TV," "VES A," "VES B" or "VIRTUAL SEMI MULTI DIMENSION," set the surround settings of the connected units, such as the amplifier, to OFF.
- You cannot use the headphone surround function and Virtual Enhanced Surround (VES) at the same time. When you turn on the headphone surround function, "VES" is automatically set to "OFF" (page 95).

Checking the Play Information DVD

You can check information such as the bit rate or the disc layer that is being played.
While playing a disc, the approximate bit rate of the playback picture is always displayed as Mbps (Mega bit per second) and the audio as kbps (kilo bit per second).

Select "ADVANCED" after pressing DISPLAY.



■ ADVANCED

The default setting is underlined.

When playing a DVD

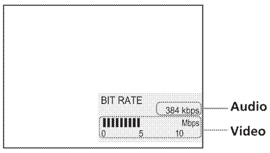
- BIT RATE: displays the bit rate.
- LAYER: displays the layer and the pick-up point.
- OFF: turns off ADVANCED display.

continued

Displays of each item

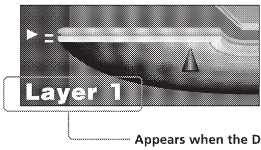
By pressing DISPLAY repeatedly, you can display either "BIT RATE" or "LAYER," whichever was selected in "ADVANCED."

BIT RATE



Bit rate refers to the amount of video/audio data per second in a disc. The higher the bit rate, the larger the amount of data. When the bit rate level is high, there is a large amount of data. However, this does not always mean that you can get higher quality pictures or sounds.

LAYER



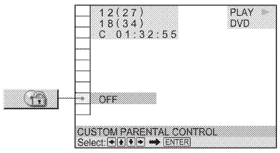
Appears when the DVD has dual layers

Indicates the approximate point where the disc is playing.
If it is a dual-layer DVD, the player indicates which layer is being read ("Layer 0" or "Layer 1").
For details on the layers, see page 108 (DVD).

Locking Discs (Custom Parental Control) DVD VIDEO CD CD

Using a registered password, you can set playback restrictions for the desired disc. You can set the same Custom Parental Control password for up to 50 discs. When you set the fifty-first disc, the first disc is canceled.
The same password is used for both Parental Control (page 85) and Custom Parental Control.

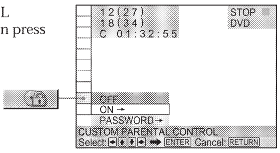
Select "CUSTOM PARENTAL CONTROL" after pressing DISPLAY.


1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
OFF
CUSTOM PARENTAL CONTROL
Select: ➡ ENTER

Setting the Custom Parental Control for a disc

1 Insert the disc you want to lock.
If a disc is playing, press ■ to stop playback.

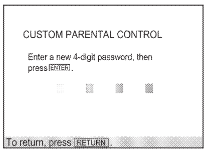
2 Select "CUSTOM PARENTAL CONTROL" using ↑/↓, then press ENTER.


1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
STOP
DVD
OFF
ON →
PASSWORD →
CUSTOM PARENTAL CONTROL
Select: ➡ ENTER Cancel: RETURN

3 Select "ON➡" using ↑/↓, then press ENTER.

■ If you have not entered a password

The display for entering a password appears.


CUSTOM PARENTAL CONTROL

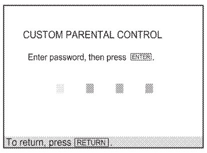
Enter a new 4-digit password, then press ENTER.

To return, press RETURN.

continued

■ When you have already registered a password

The display for confirming the password appears. Skip Step 4.

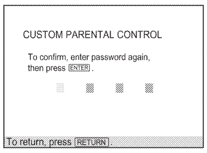

CUSTOM PARENTAL CONTROL

Enter password, then press ENTER.

To return, press RETURN.

4 Enter a 4-digit password using the number buttons, then press ENTER.

The digits change to asterisks (✱), and the display for confirming the password appears.


CUSTOM PARENTAL CONTROL

To confirm, enter password again, then press ENTER.

To return, press RETURN.

5 Enter the same 4-digit password using the number buttons, then press ENTER.

"Custom parental control is set." appears and then the screen returns to the Control Menu display.

To return to the normal screen

Press ↩RETURN.

To turn off the Custom Parental Control function

1 Select "CUSTOM PARENTAL CONTROL" using ↑/↓, then press ENTER.
2 Select "OFF" using ↑/↓, then press ENTER.
3 Enter your 4-digit password using the number buttons, then press ENTER.

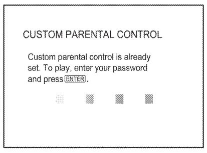
To change the password

1 Select "CUSTOM PARENTAL CONTROL" using ↑/↓, then press ENTER.
2 Select "PASSWORD➡" using ↑/↓, then press ENTER.
3 Enter your 4-digit password using the number buttons, then press ENTER.
The display for changing the password appears.
4 Enter a new 4-digit password using the number buttons, then press ENTER.
5 To confirm your password, re-enter it using the number buttons, then press ENTER.

Playing the disc for which the Custom Parental Control is set

1 Insert the disc.

The CUSTOM PARENTAL CONTROL display appears.


CUSTOM PARENTAL CONTROL

Custom parental control is already set. To play, enter your password and press ENTER.

2 Enter your 4-digit password using the number buttons, then press ENTER.

The player starts playback.

💡 If you forget your password

Enter the 6-digit number "199703" whenever the CUSTOM PARENTAL CONTROL display asks you for your password, then press ENTER. The display will ask you to enter a new 4-digit password.

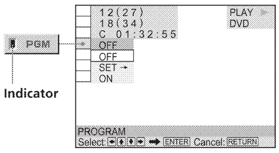
Notes

- Unless you enter the password, the player cannot play the disc for which the Custom Parental Control is set. When you do not know the password, press OPEN and remove the disc.
- When you insert the disc for which the Custom Parental Control is set, "CPC" appears on the display window. To play the disc, follow the steps above.

Creating Your Own Program (Program Play) DVD VIDEO CD CD

You can play the contents of the disc in the order you want by arranging the order of the titles, chapters or tracks on the disc and create your own program. One program can be stored in the player and contain up to 99 titles, chapters and tracks.

Select "PROGRAM" after pressing DISPLAY. When you select "ON," the "PROGRAM" indicator lights up in green.


PGM
Indicator
1 2 (2 7)
1 8 (3 4)
C 0 1 : 3 2 : 5 5
PLAY
DVD
OFF
OFF
SET →
ON
PROGRAM
Select: ➡ ENTER Cancel: RETURN

■ PROGRAM

The default setting is underlined.

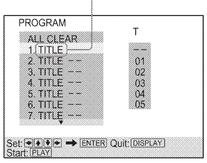
- OFF: plays normally.
- SET➡: allows you to create your own program.
- ON: plays Program Play.

Creating the program

1 Select "SET➡" in "PROGRAM."

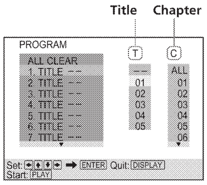
The programming display appears.

"TRACK" is displayed when you play a VIDEO CD or a CD.


PROGRAM
T
ALL CLEAR
1. TITLE
2. TITLE – –
3. TITLE – –
4. TITLE – –
5. TITLE – –
6. TITLE – –
7. TITLE – –
– –
01
02
03
04
05
Set: ➡ ENTER Quit: DISPLAY
Start: PLAY

2 Press ➡.

"01" is highlighted. It is ready to set the first title or track for Program Play.

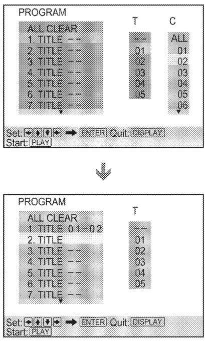

Title
Chapter
PROGRAM
T
C
ALL CLEAR
1. TITLE – –
2. TITLE – –
3. TITLE – –
4. TITLE – –
5. TITLE – –
6. TITLE – –
7. TITLE – –
– –
01
02
03
04
05
ALL
01
02
03
04
05
06
Set: ➡ ENTER Quit: DISPLAY
Start: PLAY

3 Select the title, chapter or track you want to program using ↑/↓, then press ENTER.

For example, select title or track 2.
(You can also use the number buttons and ENTER button to make a selection. In this case, the selected number is displayed on the screen.)

■ When playing a DVD

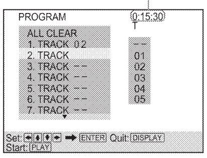
When both titles and chapters are recorded on the disc, select the title, then the chapter.


PROGRAM
T
C
ALL CLEAR
1. TITLE – –
2. TITLE – –
3. TITLE – –
4. TITLE – –
5. TITLE – –
6. TITLE – –
7. TITLE – –
– –
01
02
03
04
05
ALL
01
02
03
04
05
06
Set: ← ↑ ↓ → ➡ ENTER Quit: DISPLAY
Start: PLAY
PROGRAM
T
ALL CLEAR
1. TITLE 01–02
2. TITLE
3. TITLE – –
4. TITLE – –
5. TITLE – –
6. TITLE – –
7. TITLE – –
– –
01
02
03
04
05
Set: ← ↑ ↓ → ➡ ENTER Quit: DISPLAY
Start: PLAY

■ When playing a VIDEO CD or CD

Select the track you want to program.

Total time of the programmed tracks


PROGRAM
0:15:30
T
ALL CLEAR
1. TRACK 02
2. TRACK
3. TRACK – –
4. TRACK – –
5. TRACK – –
6. TRACK – –
7. TRACK – –
– –
01
02
03
04
05
Set: ← ↑ ↓ → ➡ ENTER Quit: DISPLAY
Start: PLAY

continued

---

4 To program other titles, chapters or tracks, repeat Step 3.

The programmed titles, chapters or tracks are displayed in the selected order.

5 Press ▷ to start Program Play.

To stop Program Play

Press CLEAR on the remote.

To change the program

1 In Step 2, select the program number of the title, chapter or track you want to change using ↑/↓.

2 Follow Step 3 for new programming.

To cancel the programmed order

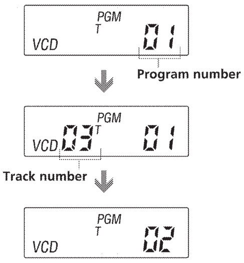
To cancel all the titles, chapters or tracks in the programmed order, select "ALL CLEAR" in Step 2.
To cancel the selected program, select the program using ↑/↓ in Step 2 then press CLEAR, or select "– –" in Step 3 then press ENTER.

💡 The program remains even after Program Play ends
When you press ▷, you can play the same program again.

💡 You can do Repeat Play or Shuffle Play of the programmed titles, chapters or tracks
During Program Play, set "REPEAT" or "SHUFFLE" to "ON" in the Control Menu display.

💡 You can select "PROGRAM" directly
Press PROGRAM on the remote.

💡 You can select discs, titles, chapters and tracks for the program by looking at the display window
You can program by looking at the display window instead of using the programming display on the screen.
When you select Track 3 in a VIDEO CD for Program 1, the display window will appear as follows:


PGM
T
VCD
01
Program number
PGM
T
VCD 03
01
Track number
PGM
T
VCD
02

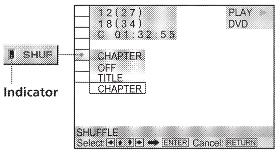
Notes

- The number of titles, chapters or tracks displayed are the same number of titles, chapters or tracks recorded on a disc.
- The program is canceled when:
  - you open the lid
  - you turn the power off
- Depending on the DVD, you may not be able to perform Program Play.
- If you are using the PBC playback function, you must first stop the disc before you can set a program.

Playing in Random Order (Shuffle Play) DVD VIDEO CD CD

You can have the player "shuffle" titles or tracks and play them in a random order. Subsequent "shuffling" may produce a different playing order.

Select "SHUFFLE" after pressing DISPLAY. When you select a shuffle mode other than "OFF," the "SHUFFLE" indicator lights up in green.


SHUF
Indicator
12(27)
18(34)
C 01:32:55
PLAY ▷
DVD
CHAPTER
OFF
TITLE
CHAPTER
SHUFFLE
Select: ← ↑ ↓ → ➡ ENTER Cancel: RETURN

■ SHUFFLE

Selects the Shuffle Play setting. The default settings are underlined.

When playing a DVD and when Program Play is set to OFF

- OFF: does not play a disc in random order.
- TITLE: has the player "shuffle" titles and play them in a random order.
- CHAPTER: has the player "shuffle" chapters and play them in a random order.

When playing a VIDEO CD or CD (when Program Play is set to OFF)

- OFF: does not play a disc in random order.
- TRACK: has the player "shuffle" tracks and play them in a random order.

When playing a VIDEO CD, CD or DVD (when Program Play is set to ON)

- OFF: does not play a disc in random order.
- ON: has the player "shuffle" titles or tracks selected in Program Play and play them in a random order.

To stop Shuffle Play

Press CLEAR on the remote.

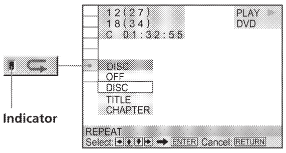
💡 You can set Shuffle Play while the disc is stopped
After selecting the "SHUFFLE" option, press ▷. The player starts Shuffle Play.

💡 You can select "SHUFFLE" directly
Press SHUFFLE on the remote.

Notes

- Shuffle Play is canceled when:
  - you open the lid
  - you turn the power off
- Depending on the DVD, you may not be able to perform Shuffle Play.
- Up to 200 chapters in a disc can be played in random order when "CHAPTER" is selected.
- You cannot perform Shuffle Play during PBC playback of VIDEO CDs (page 39).

Playing Repeatedly (Repeat Play) DVD VIDEO CD CD


Indicator
12(27)
18(34)
C 01:32:55
PLAY
DVD
DISC
OFF
DISC
TITLE
CHAPTER
REPEAT
Select: ←↑↓→ ➡ ENTER Cancel: RETURN

You can play all of the titles or tracks on a disc or a single title, chapter or track repeatedly.
In Shuffle or Program Play mode, the player repeats the titles or tracks in the shuffled or programmed order.
You cannot perform Repeat Play during PBC playback of VIDEO CDs (page 39).

Select "REPEAT" after pressing DISPLAY. When you select a repeat mode other than "OFF," the "REPEAT " indicator lights up in green.

■ **REPEAT**

Selects the Repeat Play setting. The default settings are underlined.

When playing a DVD and when Program Play and Shuffle Play are set to OFF

- OFF: does not play repeatedly.
- DISC: repeats all of the titles.
- TITLE: repeats the current title on a disc.
- CHAPTER: repeats the current chapter.

When playing a VIDEO CD/CD and when Program Play and Shuffle Play are set to OFF

- OFF: does not play repeatedly.
- DISC: repeats all of the tracks on a disc.
- TRACK: repeats the current track.

When Program Play or Shuffle Play is on

- OFF: does not play repeatedly.
- ON: repeats Program Play or Shuffle Play.

To stop Repeat Play

Press CLEAR on the remote.

You can set Repeat Play while the disc is stopped

After selecting the "REPEAT" option, press ▷. The player starts Repeat Play.

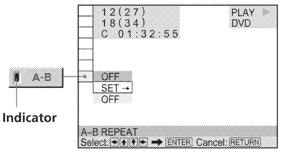
You can select "REPEAT" directly

Press REPEAT on the remote.

Notes

- Repeat play is canceled when:
  - you open the lid
  - you turn the power off
- Depending on the DVD, you may not be able to perform Repeat Play.

Repeating a Specific Portion (A-B Repeat) DVD VIDEO CD CD


Indicator
A-B
12(27)
18(34)
C 01:32:55
PLAY
DVD
OFF
SET →
OFF
A–B REPEAT
Select: ←↑↓→ ➡ ENTER Cancel: RETURN

You can play a specific portion of a title, chapter or track repeatedly. This function is useful when you want to do such things as memorize lyrics.
During PBC Playback of VIDEO CDs (page 39), this function is available only while playing moving pictures.

Select "A-B REPEAT" after pressing DISPLAY. During A-B Repeat Play, the "A-B REPEAT" indicator lights up in green.

■ **A-B REPEAT**

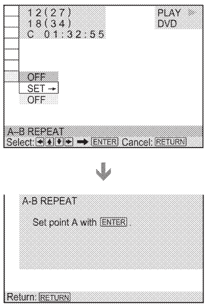
The default setting is underlined.

- SET➡: sets the A and B points.
- OFF: does not play a specific portion of a title/chapter/track repeatedly.

Setting a portion for A-B repeat

1 Select "SET➡" in "A-B REPEAT."

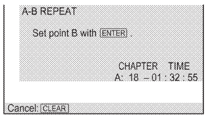
The A-B REPEAT setting display appears.


12(27)
18(34)
C 01:32:55
PLAY
DVD
OFF
SET →
OFF
A–B REPEAT
Select: ←↑↓→ ➡ ENTER Cancel: RETURN
A-B REPEAT
Set point A with ENTER.
Return: RETURN

---

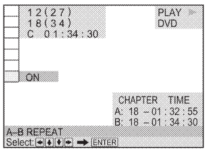
2 During playback, when you find the starting point (point A) of the portion to be played repeatedly, press ENTER.

The starting point (point A) is set.


A-B REPEAT
Set point B with ENTER.
CHAPTER TIME
A: 18 – 01 : 32 : 55
Cancel: CLEAR

3 When you reach the ending point (point B), press ENTER again.

The set points are displayed and the player starts repeating this specific portion.
"A-B" appears on the display window during A-B repeat play.


12(27)
18(34)
C 01:34:30
PLAY
DVD
ON
CHAPTER TIME
A: 18 – 01 : 32 : 55
B: 18 – 01 : 34 : 30
A–B REPEAT
Select: ←↑↓→ ➡ ENTER

To stop A-B Repeat Play

Press CLEAR on the remote.

Notes

- You can set A-B Repeat for only one specific portion.
- A-B Repeat is canceled when:
  - you open the lid
  - you turn the power off
- When you set A-B Repeat, the settings for Shuffle Play, Repeat Play and Program Play are canceled.
- You may not be able to set A-B Repeat for some DVD or VIDEO CD scenes.

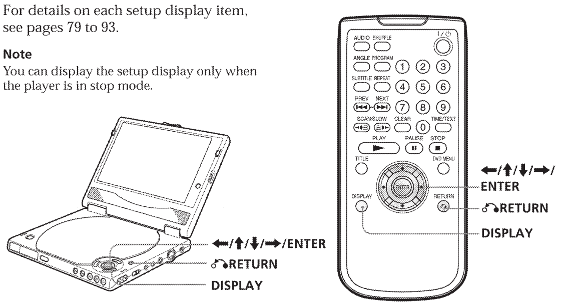
Using the Setup Display DVD VIDEO CD CD

Using the setup display, you can do the initial setup, adjust the picture and sound and set the various outputs. You can also set a language for the subtitles and the setup display, limit playback by children, and so on.

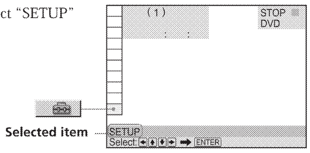
For details on each setup display item, see pages 79 to 93.

Note

You can display the setup display only when the player is in stop mode.

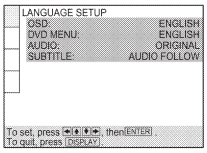

←/↑/↓/→/ENTER
RETURN
DISPLAY
←/↑/↓/→/
ENTER
RETURN
DISPLAY

1 Press DISPLAY and select "SETUP" using ↑/↓.


(1)
STOP
DVD
Selected item
SETUP
Select: ←↑↓→ ➡ ENTER

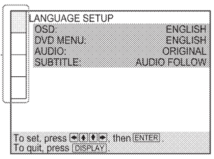
2 Press ENTER.

The setup display appears.



LANGUAGE SETUP
OSD: ENGLISH
DVD MENU: ENGLISH
AUDIO: ORIGINAL
SUBTITLE: AUDIO FOLLOW
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

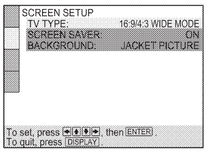
3 Select the main item you want using ↑/↓.



LANGUAGE SETUP
OSD: ENGLISH
DVD MENU: ENGLISH
AUDIO: ORIGINAL
SUBTITLE: AUDIO FOLLOW
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

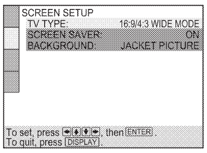
4 Press ENTER.

The selected main item is highlighted.



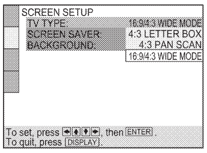
SCREEN SETUP
TV TYPE: 16:9/4:3 WIDE MODE
SCREEN SAVER: ON
BACKGROUND: JACKET PICTURE
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

5 Select the item you want using ↑/↓.



SCREEN SETUP
TV TYPE: 16:9/4:3 WIDE MODE
SCREEN SAVER: ON
BACKGROUND: JACKET PICTURE
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

6 Press ENTER.

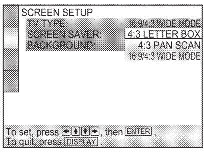


SCREEN SETUP
TV TYPE: 16:9/4:3 WIDE MODE
4:3 LETTER BOX
4:3 PAN SCAN
16:9/4:3 WIDE MODE
SCREEN SAVER:
BACKGROUND:
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

continued

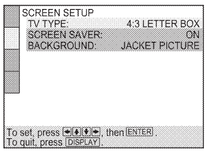
---

7 Select the setting you want using ←/↑/↓/→.



SCREEN SETUP
TV TYPE: 16:9/4:3 WIDE MODE
4:3 LETTER BOX
4:3 PAN SCAN
16:9/4:3 WIDE MODE
SCREEN SAVER:
BACKGROUND:
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

8 Press ENTER.



SCREEN SETUP
TV TYPE: 4:3 LETTER BOX
SCREEN SAVER: ON
BACKGROUND: JACKET PICTURE
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

9 Press DISPLAY.

The setup display disappears.

10 Press DISPLAY repeatedly to turn off the on-screen menu.

To return to the previous screen

Press ↶RETURN.

To quit while making a selection

Press DISPLAY.

Note

Some setup display items require operations other than selecting the setting. For details on these items, see the relevant pages.

Setup Display Item List

Default settings are underlined.

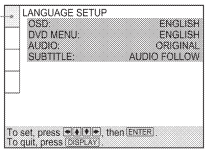
- **LANGUAGE SETUP** (page 80)
  - OSD
    - ENGLISH
    - FRENCH
    - SPANISH
    - PORTUGUESE
  - DVD MENU
    - ENGLISH
    - FRENCH
    - SPANISH
    - PORTUGUESE
    - GERMAN
    - ITALIAN
    - DUTCH
    - CHINESE
    - JAPANESE
    - DANISH
    - SWEDISH
    - FINNISH
    - NORWEGIAN
    - RUSSIAN
    - OTHERS ➡
  - AUDIO
    - ORIGINAL
    - (same as DVD MENU)
  - SUBTITLE
    - AUDIO FOLLOW
    - (same as DVD MENU)
- **SCREEN SETUP** (page 83)
  - TV TYPE
    - 4:3 LETTER BOX
    - 4:3 PAN SCAN
    - 16:9/4:3 WIDE MODE*
  - SCREEN SAVER
    - ON
    - OFF
  - BACKGROUND
    - JACKET PICTURE
    - GRAPHICS
    - BLUE
    - BLACK
- **CUSTOM SETUP** (page 85)
  - AUTO PLAY
    - OFF
    - TIMER
    - DEMO1
    - DEMO2
  - PAUSE MODE
    - AUTO
    - FRAME
  - PARENTAL CONTROL ➡
  - TRACK SELECTION
    - OFF
    - AUTO
  - POWER SAVING (DVP-FX1 only)
    - OFF
    - ON
- **AUDIO SETUP** (page 91)
  - AUDIO DRC
    - STANDARD
    - TV MODE
    - WIDE RANGE
  - DOWNMIX
    - DOLBY SURROUND
    - NORMAL
  - DIGITAL OUT
    - DOLBY DIGITAL
      - D-PCM
      - DOLBY DIGITAL
    - DTS
      - OFF
      - ON

* The default setting for DVP-F5 is "4:3 LETTER BOX."

Setting the Display Language or Sound Track (LANGUAGE SETUP) DVD VIDEO CD CD

"LANGUAGE SETUP" allows you to set various languages for the on-screen display or sound track.
The default settings are underlined.

Select "LANGUAGE SETUP" in the setup display.



LANGUAGE SETUP
OSD: ENGLISH
DVD MENU: ENGLISH
AUDIO: ORIGINAL
SUBTITLE: AUDIO FOLLOW
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

Notes

- When you select a language that is not recorded on the DVD, one of the recorded languages is automatically selected for the "DVD MENU", "AUDIO" and "SUBTITLE" settings.
- Depending on the DVD, the player may not start playing with the selected language even when you select a language in "DVD MENU," "AUDIO" or "SUBTITLE."

■ OSD (On-Screen Display)

Selects the language for the on-screen display.

- ENGLISH
- FRENCH
- SPANISH
- PORTUGUESE

■DVD MENU

Selects the language for the DVD menu.

- ENGLISH
- FRENCH
- SPANISH
- PORTUGUESE
- GERMAN
- ITALIAN
- DUTCH
- CHINESE
- JAPANESE
- DANISH
- SWEDISH
- FINNISH
- NORWEGIAN
- RUSSIAN
- OTHERS➡

When you select "OTHERS➡," select and enter the language code from the list using the number buttons (page 110).
After you have made a selection, the language code (4 digits) is displayed.

■ AUDIO

Selects the language for the sound track.

- ORIGINAL: the language given priority in the disc
- ENGLISH
- FRENCH
- SPANISH
- PORTUGUESE
- GERMAN
- ITALIAN
- DUTCH
- CHINESE
- JAPANESE
- DANISH
- SWEDISH
- FINNISH
- NORWEGIAN
- RUSSIAN
- OTHERS➡
  When you select "OTHERS➡," select and enter the language code from the list using the number buttons (page 110).
  After you have made a selection, the language code (4 digits) is displayed.

continued

Setting the Display Language or Sound Track (LANGUAGE SETUP) (continued)

■ SUBTITLE

Selects the language for the subtitles.

- AUDIO FOLLOW*
- ENGLISH
- FRENCH
- SPANISH
- PORTUGUESE
- GERMAN
- ITALIAN
- DUTCH
- CHINESE
- JAPANESE
- DANISH
- SWEDISH
- FINNISH
- NORWEGIAN
- RUSSIAN
- OTHERS➡
  When you select "OTHERS➡," select and enter the language code from the list using the number buttons (page 110).
  After you have made a selection, the language code (4 digits) is displayed.

* When you select "AUDIO FOLLOW," the language for the subtitles changes according to the language for the setting you selected in "AUDIO."

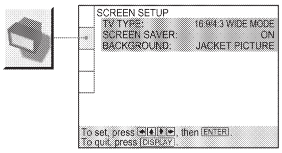
Settings for the Display (SCREEN SETUP)

DVD VIDEO CD CD

"SCREEN SETUP" allows you to set the display according to the playback conditions.

The default settings are underlined.

Select "SCREEN SETUP" in the setup display.



SCREEN SETUP
TV TYPE: 16:9/4:3 WIDE MODE
SCREEN SAVER: ON
BACKGROUND: JACKET PICTURE

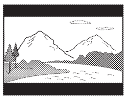
To set, press ◄/▲/▼/►, then ENTER.
To quit, press DISPLAY.

■ TV TYPE

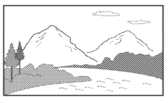
Selects the aspect ratio of the TV to be connected.

- 4:3 LETTER BOX: select this when you connect a normal TV to the player. Displays a wide picture with bands on the upper and lower portions of the screen.
- 4:3 PAN SCAN: select this when you connect a normal TV to the player. Displays the wide picture on the whole screen automatically and cuts off the portions that do not fit.
- 16:9/4:3 WIDE MODE: select this when you connect a wide-screen TV to the player or when you connect a TV with WIDE MODE function to the player (displays a wide picture with bands displayed on the upper and lower portions of the screen).

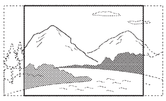
4:3 LETTER BOX



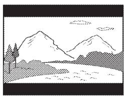
16:9



4:3 PAN SCAN



4:3 WIDE MODE



continued

Settings for the Display (SCREEN SETUP) (continued)

To select the display mode (DVP-FX1 only)
You can select the display mode of the LCD screen according to the TV TYPE setting. Press DISPLAY MODE on the player repeatedly to select the display mode. For details, see "Selecting the display mode" (page 15).

Notes
- Depending on the DVD, "4:3 LETTER BOX" may be selected automatically instead of "4:3 PAN SCAN" and vice versa.
- The default setting for DVP-F5 is "4:3 LETTER BOX."

■ SCREEN SAVER

Turns on and off the screen saver. If you turn on the screen saver, the screen saver image appears when you leave the player or the remote in pause or stop mode for 15 minutes, or when you play back a CD for more than 15 minutes. The screen saver will help prevent your display device from becoming damaged.

- ON: turns on the screen saver.
- OFF: turns off the screen saver.

■ BACKGROUND

Selects the background color or picture on the screen in stop mode or while playing a CD.

- JACKET PICTURE: The jacket picture appears in the background, but only when the jacket picture is already recorded on the disc.
- GRAPHICS: A preset picture stored in the player appears in the background.
- BLUE: The background color is blue.
- BLACK: The background color is black.

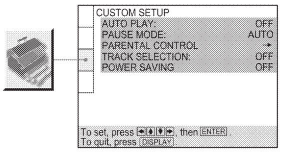
Note
If a disc which does not contain the jacket picture is played while "BACKGROUND" is set to "JACKET PICTURE," the picture stored in the player will automatically appear in the background.

Custom Settings (CUSTOM SETUP)

DVD VIDEO CD CD

"CUSTOM SETUP" allows you to set the playback conditions.
The default settings are underlined.

Select "CUSTOM SETUP" in the setup display.


CUSTOM SETUP
AUTO PLAY: OFF
PAUSE MODE: AUTO
PARENTAL CONTROL →
TRACK SELECTION: OFF
POWER SAVING: OFF
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

■ AUTO PLAY

Selects the Auto Play setting when you connect the AC power cord to the AC outlet.

- OFF: does not use "TIMER," "DEMO1" or "DEMO2" to start playback.
- TIMER: starts playing when the player is turned on, or at any time you want when connected to a timer (not supplied). Before setting the timer, detach the battery pack, connect the AC power adaptor and turn off the player.
- DEMO1: starts playing the first demonstration automatically.
- DEMO2: starts playing the second demonstration automatically.

■ PAUSE MODE (DVD only)

Selects the picture in pause mode.

- AUTO: A picture including subjects that move dynamically is output with no jitter. Normally select this position.
- FRAME: A picture including subjects that do not move dynamically is output with high resolution.

■ PARENTAL CONTROL➡

Sets a password and playback limitation level for DVDs with playback limitation for children.

The same password is used for both Parental Control and Custom Parental Control (page 65) .

For details, see "Limiting Playback by Children (Parental Control) ."

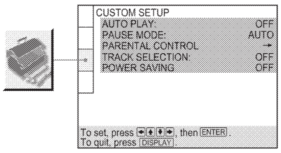
continued

Limiting Playback by Children (Parental Control)

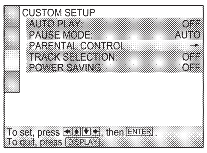
DVD

Playback of some DVDs can be limited depending on the age of the users. The "Parental Control" function allows you to set a playback limitation level.

Select "CUSTOM SETUP" in the setup display.

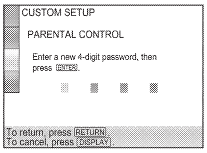

CUSTOM SETUP
AUTO PLAY: OFF
PAUSE MODE: AUTO
PARENTAL CONTROL →
TRACK SELECTION: OFF
POWER SAVING: OFF
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

1 Select "PARENTAL CONTROL" using ↑/↓, then press ENTER.


CUSTOM SETUP
AUTO PLAY: OFF
PAUSE MODE: AUTO
PARENTAL CONTROL →
TRACK SELECTION: OFF
POWER SAVING: OFF
To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

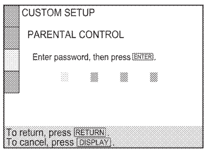
■ When you have not entered a password

The display for entering a password appears.


CUSTOM SETUP
PARENTAL CONTROL
Enter a new 4-digit password, then press ENTER.
To return, press RETURN.
To cancel, press DISPLAY.

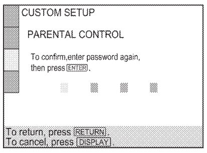
■ When you have already registered a password

The display for confirming the password appears. Skip Step 2.


CUSTOM SETUP
PARENTAL CONTROL
Enter password, then press ENTER.
To return, press RETURN.
To cancel, press DISPLAY.

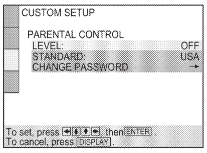
2 Enter a password in 4 digits using the number buttons, then press ENTER.

The digits change to asterisks (✱), and the display for confirming the password appears.

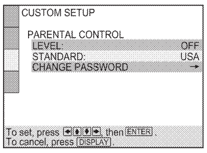

CUSTOM SETUP
PARENTAL CONTROL
To confirm,enter password again, then press ENTER.
To return, press RETURN.
To cancel, press DISPLAY.

3 To confirm your password, enter it again using the number buttons, then press ENTER.

The display for setting the playback limitation level and changing the password appears.

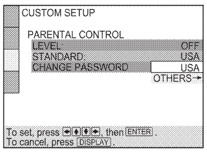

CUSTOM SETUP
PARENTAL CONTROL
LEVEL: OFF
STANDARD: USA
CHANGE PASSWORD →
To set, press ←↑↓→, then ENTER.
To cancel, press DISPLAY.

4 Select "STANDARD" using ↑/↓, then press ➡.


CUSTOM SETUP
PARENTAL CONTROL
LEVEL: OFF
STANDARD: USA
CHANGE PASSWORD →
To set, press ←↑↓→, then ENTER.
To cancel, press DISPLAY.

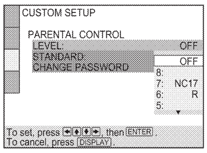
5 Select a geographic area as the playback limitation level standard using ↑/↓, then press ➡.

When you select "OTHERS➡," select and enter the standard code in the table on page 89 using the number buttons.


CUSTOM SETUP
PARENTAL CONTROL
LEVEL: OFF
STANDARD: USA
CHANGE PASSWORD
USA
OTHERS→
To set, press ←↑↓→, then ENTER.
To cancel, press DISPLAY.

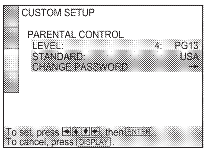
continued

6 Select "LEVEL" using ↑/↓, then press ➡.


CUSTOM SETUP
PARENTAL CONTROL
LEVEL: OFF
STANDARD:
CHANGE PASSWORD
OFF
8:
7: NC17
6: R
5:
To set, press ←↑↓→, then ENTER.
To cancel, press DISPLAY.

7 Select the level you want using ↑/↓, then press ENTER.

The lower the value, the more strict the limitation.


CUSTOM SETUP
PARENTAL CONTROL
LEVEL: 4: PG13
STANDARD: USA
CHANGE PASSWORD →
To set, press ←↑↓→, then ENTER.
To cancel, press DISPLAY.

To return to the normal screen

Press DISPLAY.

To turn off the Parental Control function and play the DVD after entering your password

Set "LEVEL" to "OFF" in Step 7, then press ▷.

To change the password

1 After Step 3, select "CHANGE PASSWORD" using ↑/↓, then press ➡ or ENTER.
The display for changing the password appears.
2 Follow Steps 2 and 3 to enter a new password.

Playing a disc which is blocked by the playback limitation level

1 Insert the disc and press ▷.
The PARENTAL CONTROL display appears.
2 Enter your 4-digit password using the number buttons, then press ENTER.
The player starts playback.
When you stop playing the DVD, the level returns to the original level.

If you forget your password
Enter the 6-digit number "199703" whenever the PARENTAL CONTROL display asks you for your password, then press ENTER. The display will ask you to enter a new 4-digit password.

Notes
- When you play DVDs which do not have the Parental Control function, playback cannot be limited on this player.
- If you do not set a password, you cannot change the settings for playback limitation.
- Depending on the DVD, you may be asked to change the parental control level while playing the disc. In this case, enter your password, then change the level. When you stop playing the DVD, the level returns to the original level.
- The same password is used for both Parental Control and Custom Parental Control (page 65).

Standard	Code number
Argentina	2044
Australia	2047
Austria	2046
Belgium	2057
Brazil	2070
Canada	2079
Chile	2090
China	2092
Denmark	2115
Finland	2165
France	2174
Germany	2109
Hong Kong	2219
India	2248
Indonesia	2238
Italy	2254
Japan	2276

Standard	Code number
Korea	2304
Malaysia	2363
Mexico	2362
Netherlands	2376
New Zealand	2390
Norway	2379
Pakistan	2427
Philippines	2424
Portugal	2436
Russia	2489
Singapore	2501
Spain	2149
Sweden	2499
Switzerland	2086
Taiwan	2543
Thailand	2528
United Kingdom	2184

■ TRACK SELECTION

Gives the sound track which contains the highest number of channels priority when you play a DVD on which multiple audio formats (PCM, DTS or Dolby Digital format) are recorded.

- OFF : No priority given.
- AUTO : Priority given.

Notes
- When you set this item to "AUTO", the language may change depending on the "AUDIO" settings in "LANGUAGE SETUP."
  The "TRACK SELECTION" setting has higher priority than the "AUDIO" settings in "LANGUAGE SETUP" (page 81).
- If you select "DIGITAL OUT" in "AUDIO SETUP" and set "DTS" to "OFF," the DTS sound track is not played even if you set this item to "AUTO" and the highest-numbered audio channel is recorded in DTS format.
- If PCM, DTS and Dolby Digital sound tracks have the same number of channels, the player selects PCM, DTS and Dolby Digital sound tracks in this order.
- Depending on the DVD, the audio channel with priority may be predetermined. In this case, you cannot give priority to the DTS or Dolby Digital format by selecting "AUTO."

■ POWER SAVING (DVP-FX1 only)

Turns on and off the power saving function. If you turn on the power saving function, the brightness of the LCD screen is reduced to conserve the battery life of the battery pack.

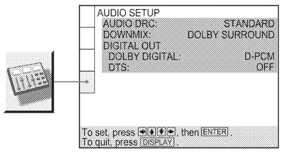
- OFF : turns off the power saving function.
- ON : turns on the power saving function. The player can reduce the power consumption by approximately 10 percent.

Note
Even if you set this item to "ON," the display window lights up whenever:
- you set the LINE SELECT switch to "IN" to watch the picture from other equipment
- you turn on the player

Settings for the Sound (AUDIO SETUP)

"AUDIO SETUP" allows you to set the sound according to the playback conditions.
The default settings are underlined.

Select "AUDIO SETUP" in the setup display.



AUDIO SETUP
AUDIO DRC: STANDARD
DOWNMIX: DOLBY SURROUND
DIGITAL OUT
DOLBY DIGITAL: D-PCM
DTS: OFF

To set, press ←↑↓→, then ENTER.
To quit, press DISPLAY.

■ AUDIO DRC (Dynamic Range Control)

Makes the sound clear when the volume is turned down when playing a DVD. This function works only when you play a DVD which has the AUDIO DRC function.

This affects the output when:
- you have made the connections using an audio connecting cord
- you have made the connections using an optical digital connecting cord (when you set "DOLBY DIGITAL" to "D-PCM" in "DIGITAL OUT")

- STANDARD: Normally select this position.
- TV MODE: makes the low sounds clear even if you turn the volume down. It is especially recommended when you listen to the sound using the speakers of the TV.
- WIDE RANGE: It gives you the feeling of being at a live performance. When you use high quality speakers, it is more effective.

Note
When you play DVDs without the AUDIO DRC function, there may be no effect on the sound.

■ DOWNMIX

Switches the mixing down methods when you play a DVD on which rear signal components such as LS, RS or S are recorded in Dolby Digital format. For details on the rear signal components, see "Displaying the audio information of the disc" (page 55).

This affects the output when:
- you have made the connections using an audio connecting cord
- you have made the connections using an optical digital connecting cord (when you set "DOLBY DIGITAL" to "D-PCM" in "DIGITAL OUT")

- DOLBY SURROUND: when the player is connected to an audio component that conforms to Dolby Surround (Pro Logic). The output signals which reproduce the Dolby Surround (Pro Logic) effect are mixed down to 2 channels.
- NORMAL: when the player is connected to an audio component that does not conform to Dolby Surround (Pro Logic). The signal without the Dolby Surround (Pro Logic) effect are output.

Setting the digital output signal (DIGITAL OUT)

Switches the methods of outputting audio signals when you, connect 1. a digital component such as a receiver (amplifier) having a digital connector, 2. an audio component having a built-in decoder (Dolby Digital or DTS), 3. a DAT or MD using an optical digital connecting cord. For connection details, see pages 19 and 22.

Note
When you have made the connections using an optical digital connecting cord and play sound tracks with a 96 kHz sampling frequency, the output signals are converted to 48 kHz (sampling frequency). When you have made the connections using an audio connecting cord, sampling frequency stays at 96 kHz and the output signals are converted to analog signals.

■ DOLBY DIGITAL

Selects the Dolby Digital signals to be output when you have made the connections using an optical digital connecting cord.

- D-PCM (Downmix PCM): when you play Dolby Digital sound tracks, the output audio signals are mixed down to 2 channels. You can select whether the signals conform to Dolby Surround (Pro Logic) or not by making adjustments to the "DOWNMIX" item in "AUDIO SETUP."
- DOLBY DIGITAL: when the player is connected to an audio component with a built-in Dolby Digital decoder.
  If the player is connected to an audio component lacking a built-in Dolby Digital decoder, do not set this. Otherwise, when you play the Dolby Digital sound track, a loud noise or no sound will come out from the speakers, affecting your ears or causing the speakers to be damaged.

Note

When you select "D-PCM, " set Virtual Enhanced Surround (VES) to "OFF." Otherwise, the player will not output signals when you have made the connections using an optical digital connecting cord.

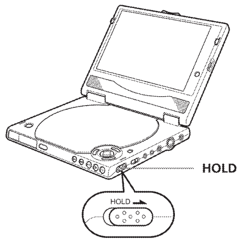
■ DTS

Selects the DTS signals to be output when you have made the connections using an optical digital connecting cord.

- OFF: when the player is connected to an audio component lacking a built-in DTS decoder.
- ON: when the player is connected to an audio component having a built-in DTS decoder.
  If the player is connected to an audio component lacking a built-in DTS decoder, do not set this. Otherwise, when you play the DTS sound track, a loud noise will come out from the speakers, affecting your ears or causing the speakers to be damaged.

Preventing the Buttons from being Pressed Accidentally

You can prevent the buttons from being pressed accidentally on this player (when carrying it, for example). After setting the HOLD switch to on, the buttons are locked.
(You can still use the remote to operate the player.)



Slide HOLD in the direction of the arrow.

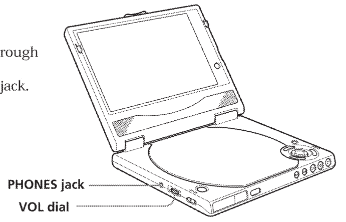
The buttons are locked.
If you press the buttons, "*Hol d*" appears on the display window.

To cancel the Hold function

Slide HOLD back.

Listening with Headphones

You can enjoy the audio sound through headphones (not supplied) by connecting them to the PHONES jack. Turn VOL to adjust the volume.



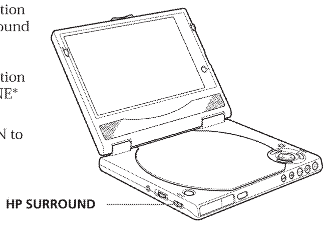
Before starting playback

Adjust the sound volume to MIN (lowest level), then press ► and turn up the volume little by little.

Using the headphone surround function

Even if you listen to the sound through headphones, the headphone surround function gives the sound a 3D surround effect for a more realistic listening experience. The headphone surround function uses the SRS HEADPHONE* technology.

Set HP SURROUND to ON to turn on the headphone surround function.



Notes

- You cannot use the headphone surround function and Virtual Enhanced Surround (VES) at the same time. When you turn on the headphone surround function, "VES" is automatically set to "OFF" (page 60).
- The sound may be interrupted for a moment when you switch HP SURROUND on or off.
- Depending on the disc, the headphone surround function may not work properly.

* SRS HEADPHONE and the (●) symbol are trademarks of SRS Labs, Inc. in the United States and selected foreign countries. SRS HEADPHONE technology is incorporated under license from SRS Labs, Inc.

Watching the Picture without Connecting Cables — LASER LINK

If you use the LASER LINK* function, you can easily view the picture on your TV without connecting cables.
LASER LINK is a system which transmits and receives pictures and sound between LASER LINK compatible video equipment by using infrared rays.

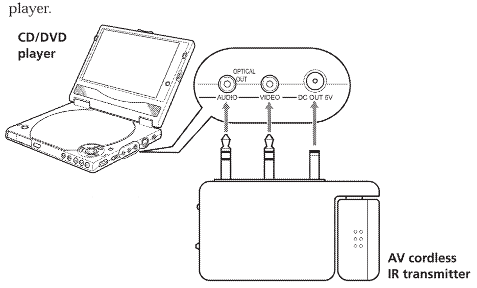
To enjoy the LASER LINK function, the following accessories are needed:

- AV cordless IR transmitter IFV-FX1 (not supplied)
- AV cordless IR receiver IFT-R20 (not supplied)

* LASER LINK is a trademark of Sony Corporation.

Hookups

1 Connect the IFV-FX1 AV cordless IR transmitter (not supplied) to the player.



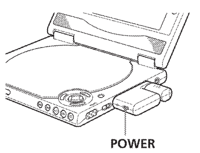
2 Connect the AV cordless IR receiver (ex. IFT-R20, not supplied) to your TV.

For details, refer to the operating instructions of the receiver.

Operation

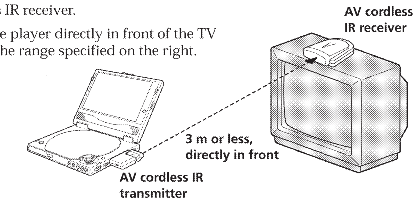
1. Turn on the TV and select the video input.
2. Turn on the AV cordless IR receiver.
3. Set the LINE SELECT switch on the player to OUT.
4. Press POWER to turn on the player.
5. Set the POWER switch on the AV cordless IR transmitter to ON.

   The POWER indicator lights up.



6. Adjust the angle and direction of the AV cordless IR transmitter to match the AV cordless IR receiver.

   Place the player directly in front of the TV within the range specified on the right.



7. Start playback on the player.
8. Adjust the distance and angle between the AV cordless IR transmitter and the AV cordless IR receiver so that the playback picture appears clearly on the TV.

To turn off the equipment

Be sure to turn off the AV cordless IR transmitter before you turn off the player.

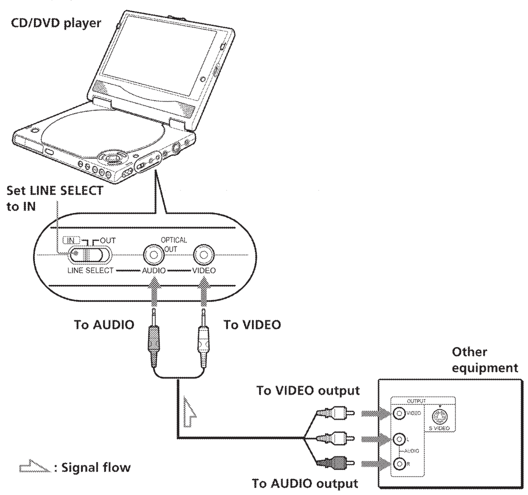
Notes

- Do not connect the AV cordless IR receiver to a video deck, or do not use an AV cordless IR receiver built into a video deck. If you do, noise may appear in the picture.
- Do not cover the AV cordless IR transmitter and the AV cordless IR receiver with your hands or other objects.
- Infrared rays cannot pass through walls or opaque glass. Be sure to place the player in an unobstructed position. Using LASER LINK through glass will shorten the transmission range.
- Do not place the player too close to the TV, as this may cause noise and/or beat.
- When using the battery pack, picture or sound noise may appear or the transmission range may be shortened if the battery power is low. Use the AC power adaptor or charge the battery pack.

Watching the Picture of Other Equipment on the LCD Screen (DVP-FX1 only)

You can watch the picture of other connected equipment, such as a video camera, on the LCD screen.

Be sure to set the LINE SELECT switch on the player to IN.



Note

When LINE SELECT is set to IN, you cannot play discs on the player.

Troubleshooting

If you experience any of the following difficulties while using the player, use this troubleshooting guide to help remedy the problem. Should any problem persist, consult your nearest Sony dealer.

	Symptom	Remedy
Power	The power is not turned on.	• Check that the AC power cord is connected securely.
		• When using the battery pack, check the remaining battery life.
		• Make sure you use the supplied AC power adaptor. (Do not use any other AC power adaptor.)
		• Check that the HOLD switch is set to off.
		• Disconnect the AC power adaptor from this player for more than 10 minutes. Then connect the AC power adaptor and turn the power on again. If the power is still not turned on, disconnect the AC power adaptor and the battery pack and refer to your nearest Sony dealer.
	The power is turned off automatically.	• The Auto Power Off function is activated. (If you do not operate the player or the remote for more than 30 minutes when a disc is not being played, the power will be automatically turned off.) Press POWER on the player to turn the power on.
		• Batteries are depleted. Recharge the battery pack.
Picture	There is no picture.	• The LINE SELECT switch is set to IN. Set it to OUT. (DVP-FX1 only)
		• Check that the player is connected securely.
		• The video connecting cord is damaged. Replace it with a new one.
		• Use only the supplied video connecting cord.
		• Make sure you connect the player to the video input connector on the TV (page 17).
		• Make sure you turn on the TV.
		• Make sure you select the video input on the TV so that you can view the pictures from the player.
		• The display mode is set to off. Press DISPLAY MODE to change the display mode. (DVP-FX1 only)

continued

Troubleshooting (continued)

	Symptom	Remedy
Picture	Picture noise appears.	• Clean the disc.
		• If the video signal from your DVD player has to go through your VCR to get to your TV, the copy-protection applied to some DVD programs could affect picture quality. If you still experience problems after checking your connections, please try connecting your DVD player directly to your TV's S-input, if your TV is equipped with this input (page 17).
		• Check that this player is placed in a horizontal position and there is no mechanical vibration or shock.
		• There is a flaw on the disc.
		• When you watch the picture of other equipment using the LCD screen, the picture noise may appear if the color system of the input signal is different from that of the LCD screen. Change the color system of the LCD screen by pressing DISPLAY on the player for more than two seconds (DVP-FX1 only, page 98).
		• Picture noise may appear when you use the LASER LINK function. Use the supplied audio/video connecting cord to get a clear picture.
	Even though you set the aspect ratio in "TV TYPE" in "SCREEN SETUP" of the setup display, the picture does not fill the screen.	• The aspect ratio is fixed on your DVD.
	The VIDEO CD menu does not appear.	• Make sure you play a VIDEO CD with PBC functions.
		• Make sure you follow the instructions for interactive operations. Refer to the instructions supplied with the disc.
Sound	There is no sound.	• Check that the player is connected securely.
		• The audio connecting cord is damaged. Replace it with a new one.
		• Make sure you connect the player to the audio input connectors on the receiver (amplifier) (page 20).
		• Make sure you turn on the TV and the receiver (amplifier).
		• Make sure you select the appropriate input on the receiver (amplifier) so that you can listen to the sound from the player.

Symptom	Remedy
There is no sound.	• The player is in pause mode or in Slow-motion Play mode. Press ▷ to return to normal play mode.
	• The player is in fast forward or fast reverse mode. Press ▷ to return to normal play mode.
	• Check the speaker connections (page 23). Refer to the operating manual of your receiver (amplifier).
	• You selected a VES mode other than "OFF" in the Control Menu display when you connected the component using the optical digital connecting cord. Set "VES" to "OFF" in the Control Menu display (page 60).
	• When you have made the connections using an audio connecting cord and play DTS sound tracks, no sound will come out (page 31).
	• Check that the headphones plug connected to the headphones jack is firmly connected to this player.
	• Check that the VOL dial is not set to "MIN."
	• When you close the LCD panel, no sound will come out from the built-in speakers (DVP-FX1 only).
Sound is noisy.	• Clean the disc.
	• There is a flaw on the disc.
	• When you have made the connections using an audio connecting cord and play a CD with DTS sound tracks, sound noise will come out (page 31).
	• Check that this player is placed in a horizontal position and there is no mechanical vibration or shock.
The sound loses its stereo effect when you play a VIDEO CD or a CD.	• Set "AUDIO" to "STEREO" in the Control Menu display (page 54).
	• Make sure you connect the player correctly (pages 17, 20, 23).
The surround effect is difficult to hear when you are playing a Dolby Digital sound track.	• Check the speaker connections (page 23). Refer to the operating manual of your receiver (amplifier).
	• Depending on the DVD, the output signal may not be the entire 5.1 channels. It may be monaural or stereo even if the sound track is recorded in Dolby Digital format.

continued

Symptom	Remedy
The remote does not function.	• Remove any obstacles between the remote and the player.
	• Use the remote near the player.
	• Point the remote at the remote sensor ▣ on the player.
	• Replace all of the batteries in the remote with new ones if they are weak.
	• When using the battery pack, press POWER on the player to turn on it.
	• When using the battery pack and 10 minutes have passed after turning off the player, you cannot turn on the player with the remote.
	• Make sure you use the supplied remote.
The disc does not play.	• There is no disc inside ("Insert disc." appears on the screen). Insert a disc.
	• Insert the disc correctly with the playback side facing down.
	• Clean the disc.
	• There is a flaw on the disc.
	• The player cannot play CD-ROMs, etc (page 7). Insert a DVD, a VIDEO CD, or CD.
	• Check the region code of the DVD (page 6).
	• Moisture has condensed inside the player. Remove the disc and leave the player turned on for about half an hour (page 10).
	• Check that the player is placed in a horizontal position.
	• The buttons on the player are locked. Slide HOLD back to the off position.
	• The LINE SELECT switch is set to IN. Set it to OUT. (DVP-FX1 only)
VES (Virtual Enhanced Surround) does not function.	• The headphone surround function is turned on. Set HP SURROUND to OFF.
The player does not play from the beginning when playing a disc.	• Repeat Play, Shuffle Play or Program Play has been selected. Press CLEAR (pages 68 to 73).
	• Resume Play has been selected. Press ■ on the player or on the remote before you start playing (page 35).
	• A title menu or a DVD menu automatically appears on the TV screen when you play your DVD, or a setup display automatically appears on the TV screen when you play your VIDEO CD with PBC functions.

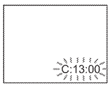
Symptom	Remedy
The player starts playing the disc automatically.	• The DVD features the auto playback function.
	• "AUTO PLAY" in "CUSTOM SETUP" is set to "TIMER." (page 85)
Playback stops automatically.	• The disc may contain an auto pause signal. While playing such a disc, the player stops playback at the signal.
	• There is a flaw on the disc.
You cannot perform some functions such as Stop, Search, Slow-motion Play, Repeat Play, Shuffle Play or Program Play.	• Depending on the disc, you may not be able to do some of these operations.
Messages do not appear on the screen in the language you want.	• In the setup display, select the desired language for the on-screen display in "OSD" under "LANGUAGE SETUP" (page 80).
The language for the sound track cannot be changed when you play a DVD.	• Multilingual tracks are not recorded on the DVD.
	• Changing the language for the track is prohibited on the DVD.
The subtitle language cannot be changed when you play a DVD.	• Multilingual subtitles are not recorded on the DVD.
	• Changing the language for the subtitles is prohibited on the DVD.
The subtitles cannot be turned off when you play a DVD.	• Depending on the DVD, you may not be able to turn the subtitles off.
The angles cannot be changed when you play a DVD.	• Multi-angles are not recorded on the DVD.
	• Changing the angles is prohibited on the DVD.
The player does not operate properly.	• Static electricity, etc., may affect the player's operation. Disconnect the AC power cord once, then connect it again. When using the battery pack, detach it once and attach it again.
"Lo dc In" appears on the display window.	• When using the battery pack, the AC power adaptor is not connected to an AC outlet even if the AC power adaptor is connected to the player. Disconnect the AC power adaptor from the player.
	• Check that the AC power adaptor is connected to an AC outlet, then disconnect from this player and connect again.
	• Use only the supplied AC power adaptor.
"H I dc In" appears on the display window.	• Use only the supplied AC power adaptor.
"H I bAtt" appears on the display window.	• There may be a problem with the battery pack. Detach it and consult your nearest Sony dealer.

continued

Symptom	Remedy
"▭" flashes on the display window.	• There may be a problem with charging. Disconnect the AC power adapter and detach the battery pack. Then attach the battery pack and connect the AC power adapter to start charging again. If "▭" still flashes, consult your nearest Sony dealer.
"H ItEMP" appears and "▭" flashes on the display window.	• The player and the battery pack unusually heat up while charging. Charge the battery pack at a temperature between 41 ˚F to 95 ˚F (5 ˚C to 35 ˚C).
"dcout" appears on the display window.	• There may be a problem with the AV cordless IR transmitter. Detach it and consult your nearest Sony dealer.
5 numbers or letters are displayed on the screen and on the display window.	• The self diagnosis function was activated. See the table on page 105.

Self-diagnosis Function

When the self-diagnosis function activates to prevent the player from malfunctioning, a five-character service number (combination of a letter and digits) flashes on the screen and on the display window. In this case, check the following table.



First three characters	Cause and/or Corrective Action
C13	• The disc is dirty. ➡ Clean the disc with a cleaning cloth (page 12).
C31	• The disc is not inserted correctly. ➡ Open the disc tray and insert the disc correctly.
Exx (xx is any number)	• To prevent a malfunction, the player has performed the self-diagnosis function. ➡ When you contact your Sony dealer or local authorized Sony service facility, give the 5-character service number. (example: E:61:10)

Language Code List

For details, see pages 54, 57 and 81.

The language spellings conform to the ISO 639: 1988 (E/F) standard.

Code	Language	Code	Language	Code	Language
1027	Afar	1151	Basque	1297	Kazakh
1028	Abkhazian	1157	Persian	1298	Greenlandic
1032	Afrikaans	1165	Finnish	1299	Cambodian
1039	Amharic	1166	Fiji	1300	Kannada
1044	Arabic	1171	Faroese	1301	Korean
1045	Assamese	1174	French	1305	Kashmiri
1051	Aymara	1181	Frisian	1307	Kurdish
1052	Azerbaijani	1183	Irish	1311	Kirghiz
1053	Bashkir	1186	Scots Gaelic	1313	Latin
1057	Byelorussian	1194	Galician	1326	Lingala
1059	Bulgarian	1196	Guarani	1327	Laothian
1060	Bihari	1203	Gujarati	1332	Lithuanian
1061	Bislama	1209	Hausa	1334	Latvian; Lettish
1066	Bengali; Bangla	1217	Hindi	1345	Malagasy
1067	Tibetan	1226	Croatian	1347	Maori
1070	Breton	1229	Hungarian	1349	Macedonian
1079	Catalan	1233	Armenian	1350	Malayalam
1093	Corsican	1235	Interlingua	1352	Mongolian
1097	Czech	1239	Interlingue	1353	Moldavian
1103	Welsh	1245	Inupiak	1356	Marathi
1105	Danish	1248	Indonesian	1357	Malay
1109	German	1253	Icelandic	1358	Maltese
1130	Bhutani	1254	Italian	1363	Burmese
1142	Greek	1257	Hebrew	1365	Nauru
1144	English	1261	Japanese	1369	Nepali
1145	Esperanto	1269	Yiddish	1376	Dutch
1149	Spanish	1283	Javanese	1379	Norwegian
1150	Estonian	1287	Georgian	1393	Occitan

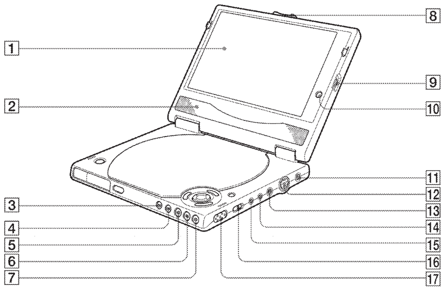
Code	Language	Code	Language	Code	Language
1403	(Afan) Oromo	1506	Slovenian	1535	Tonga
1408	Oriya	1507	Samoan	1538	Turkish
1417	Punjabi	1508	Shona	1539	Tsonga
1428	Polish	1509	Somali	1540	Tatar
1435	Pashto; Pushto	1511	Albanian	1543	Twi
1436	Portuguese	1512	Serbian	1557	Ukrainian
1463	Quechua	1513	Siswati	1564	Urdu
1481	Rhaeto-Romance	1514	Sesotho	1572	Uzbek
1482	Kirundi	1515	Sundanese	1581	Vietnamese
1483	Romanian	1516	Swedish	1587	Volapük
1489	Russian	1517	Swahili	1613	Wolof
1491	Kinyarwanda	1521	Tamil	1632	Xhosa
1495	Sanskrit	1525	Telugu	1665	Yoruba
1498	Sindhi	1527	Tajik	1684	Chinese
1501	Sangho	1528	Thai	1697	Zulu
1502	Serbo-Croatian	1529	Tigrinya	1703	Not specified
1503	Singhalese	1531	Turkmen		
1505	Slovak	1532	Tagalog		

Index to Parts and Controls

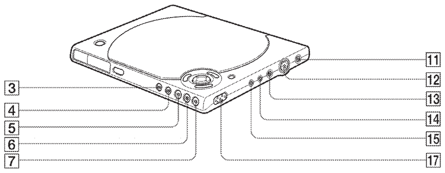
Refer to the pages indicated in parentheses for details.

Console

DVP-FX1



DVP-F5



1 **LCD screen (14)**
Displays the playback picture, etc.

2 **Speaker (15)**
Emits the sound.

3 **⏮ PREV button (32)**
Press to go back to the previous chapter or track.

4 **⏭ NEXT button (32)**
Press to go to the next chapter or track.

5 **▷PLAY button (31)**
Plays a disc.

6 **❚❚PAUSE button (32)**
Pauses playing a disc.

7 **■STOP button (32, 35)**
Stops playing a disc.

8 **PUSH OPEN button (14)**
Press to lift open the LCD panel.

9 **BRIGHT dial (14)**
Adjusts the brightness of the LCD screen.

10 **DISPLAY MODE button (15)**
Changes the display mode of the LCD screen.

11 **DC IN 10V connector (25)**
Connect to the AC power adaptor.

12 **S VIDEO OUT connector (17, 20)**
Connect to the S video input connector on your TV or monitor.

13 **DC OUT 5V connector (96)**
Connect the DC IN 5V connector of another component requiring a power souce.

14 **VIDEO IN/OUT connector (17, 98)**
Connect to the video input/output connector on your TV or monitor.

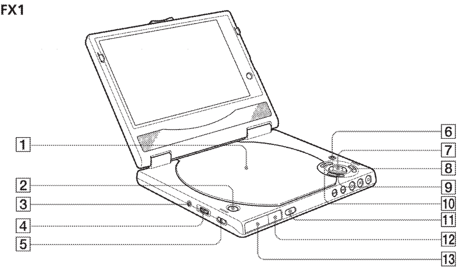
15 **AUDIO IN/OUT / OPTICAL OUT connector (17, 20, 23, 98)**
Connect to the audio input/output connector on your TV or receiver (amplifier), or connect to an audio component using an optical digital connecting cord.

16 **LINE SELECT switch (17, 20, 98)**
Switches input/output of the VIDEO and AUDIO connectors.

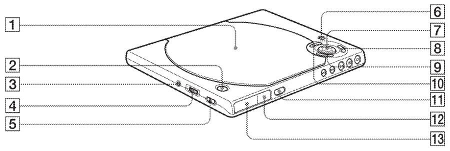
17 **HOLD switch (94)**
Turns on and off the hold function.

Console

DVP-FX1



DVP-F5



1 **Lid (30)**

2 **OPEN button (30)**
Opens the lid.

3 **PHONES connector (95)**
Connect the headphones.

4 **VOL dial (95)**
Adjusts the volume of the built-in speakers and the headphones.

5 **HP SURROUND switch (95)**
Turns on and off the headphone surround function.

6 **↶RETURN button (39, 46)**
Press to return to the previously selected screen, etc.

7 **←/↑/↓/→/ENTER button**
Selects and executes the items or settings.

8 **DISPLAY button (45)**
Displays the Control Menu display on the screen to set or adjust the Control Menu items.

9 **TITLE button (37)**
Displays the title menu on the screen.

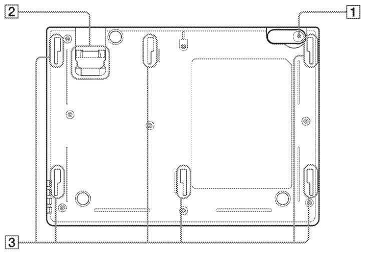
10 **DVD MENU button (38)**
Displays the DVD menu on the screen.

11 **POWER button (30)**
Turns on and off the power of the player.

12 **▣ (remote sensor) (13)**
Accepts the remote control signals.

13 **Display window (41)**
Indicates the playing time, etc.

Bottom

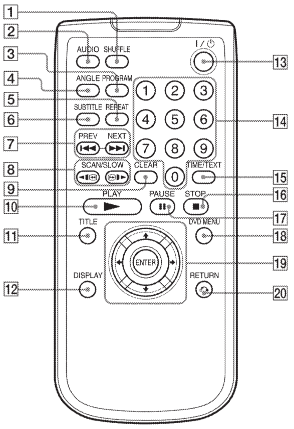


1 **Stabilizer tab (DVP-FX1 only) (14)**
Pull out to prevent the player from tipping over when using the LCD screen.

2 **Battery terminals (9)**

3 **Slots for the battery (9)**

Remote commander


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
AUDIO
SHUFFLE
I/⏻
ANGLE
PROGRAM
SUBTITLE
REPEAT
PREV
NEXT
SCAN/SLOW
CLEAR
TIME/TEXT
PLAY
PAUSE
STOP
TITLE
DVD MENU
ENTER
DISPLAY
RETURN
1
2
3
4
5
6
7
8
9
0

1 **SHUFFLE button (72)**
Changes the "SHUFFLE" mode.

2 **AUDIO button (54)**
Changes the sound while playing a DVD or VIDEO CD.

3 **PROGRAM button (68)**
Displays the "PROGRAM" display on the screen.

4 **ANGLE button (59)**
Changes the angles when playing a DVD.

5 **REPEAT button (73)**
Changes the "REPEAT" mode.

6 **SUBTITLE button (57)**
Changes the subtitles when playing a DVD.

7 **I◄◄/►►I PREV/NEXT buttons (32)**
Press to go to the next chapter or track, or to go back to the previous chapter or track.

8 **◄I◄◄/►►I► SCAN/SLOW buttons (34)**
Locate a point quickly while monitoring the picture or play a disc in slow motion.

continued

9 **CLEAR button (70, 72, 73, 75)**
Press to return to continuous play etc.

10 **▷PLAY button (31)**
Plays a disc.

11 **TITLE button (37)**
Displays the title menu on the screen.

12 **DISPLAY button (45)**
Displays the Control Menu display on the screen to set or adjust the Control Menu items.

13 **I/⏻ button (30)**
Turns on and off the power of the player.

14 **Number buttons**
Selects the items or settings.

15 **TIME/TEXT button (41)**
Displays the playing time of the disc, etc., on the display window.

16 **■STOP button (32, 35)**
Stops playing a disc.

17 **❙❙PAUSE button (32)**
Pauses playing a disc.

18 **DVD MENU button (38)**
Displays the DVD menu on the screen.

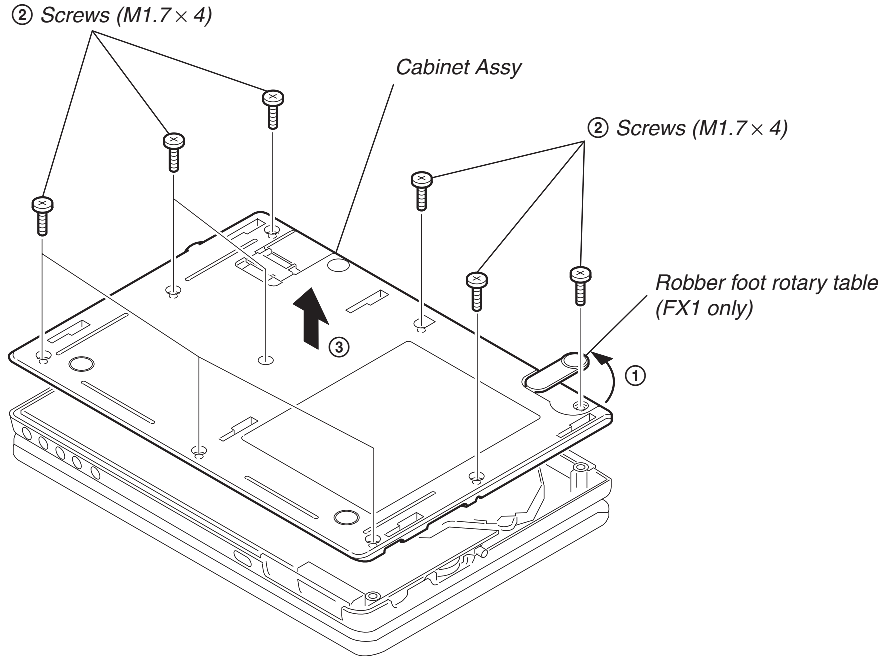
19 **←/↑/↓/→/ENTER buttons**
Selects and executes the items or settings.

20 **↺RETURN button (39, 46)**
Press to return to the previously selected screen, etc.

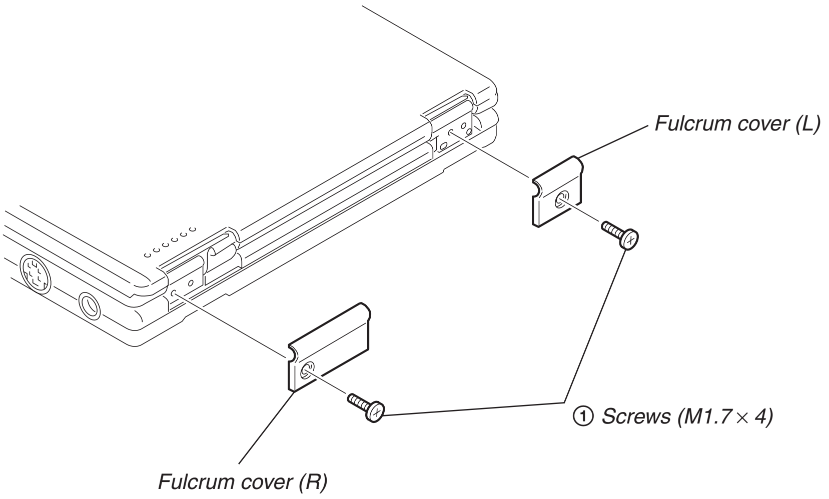
SECTION 2
DISASSEMBLY

NOTE: Follow the disassembly procedure in the numerical order given.

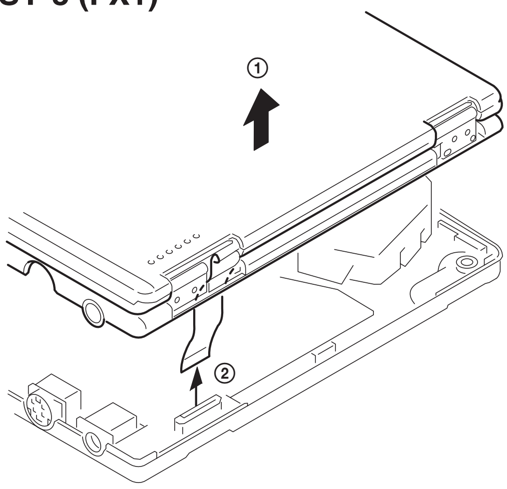
2-1. CABINET ASSY-1


② Screws (M1.7 × 4)
Cabinet Assy
② Screws (M1.7 × 4)
Robber foot rotary table
(FX1 only)
①
③

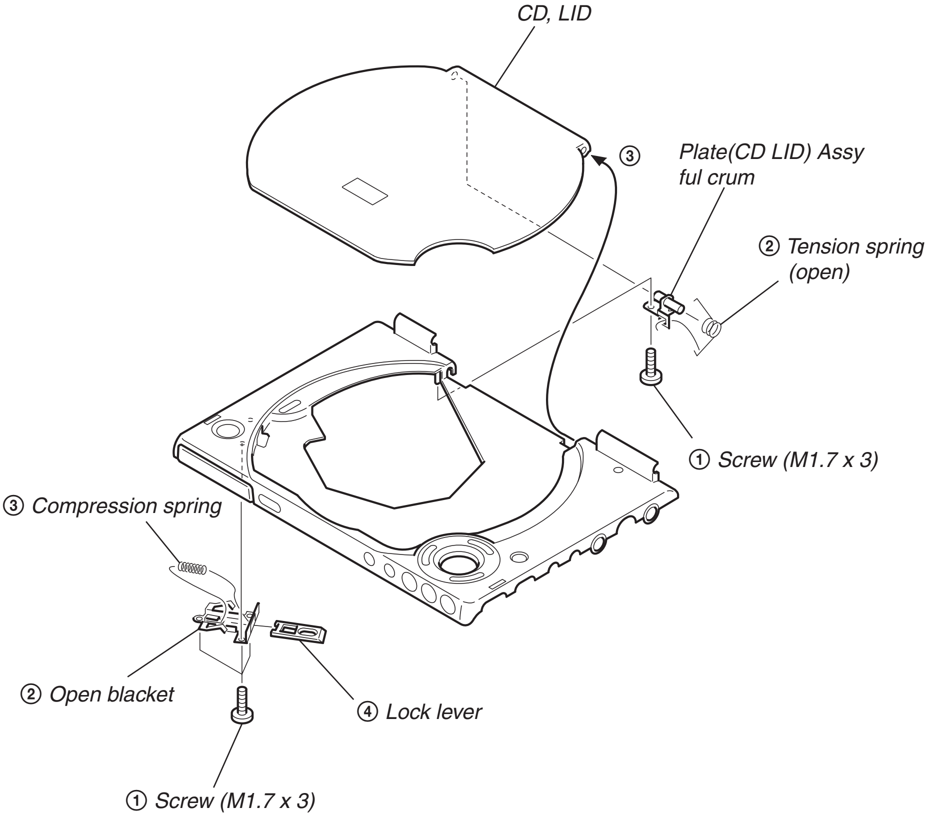
2-2. CABINET ASSY-2 (FX1)


Fulcrum cover (L)
① Screws (M1.7 × 4)
Fulcrum cover (R)

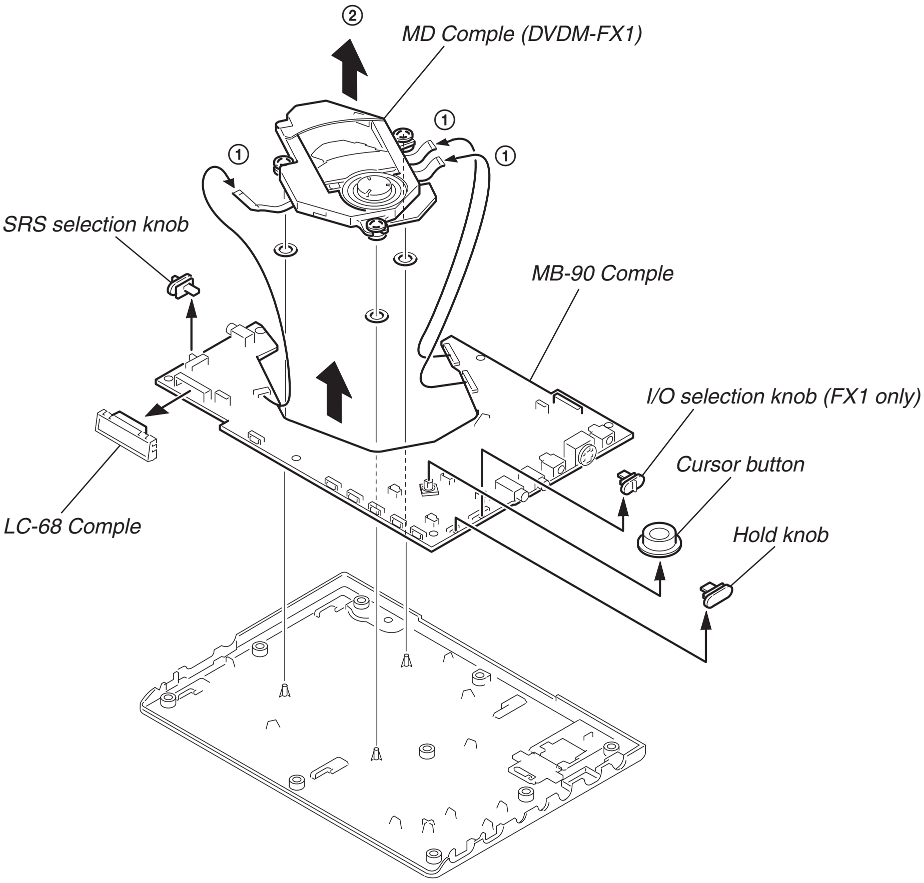
2-3. CABINET ASSY-3 (FX1)



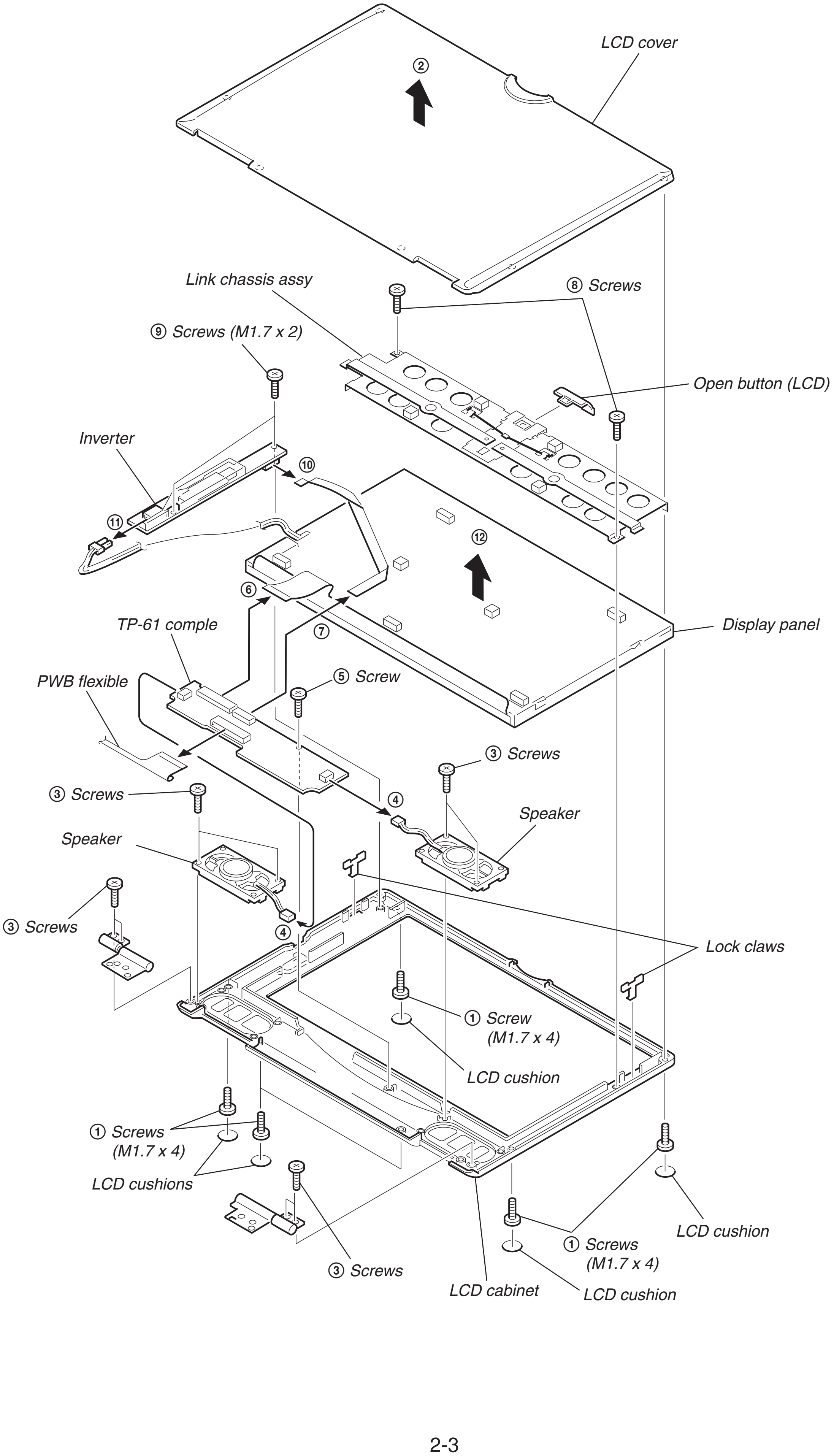
2-4. CD, LID


CD, LID
③
Plate(CD LID) Assy
ful crum
② Tension spring
(open)
① Screw (M1.7 x 3)
③ Compression spring
② Open blacket
④ Lock lever
① Screw (M1.7 x 3)

2-5. MB-90 BOARD, LC-68 BOARD, MD COMPLE


②
MD Comple (DVDM-FX1)
①
①
①
SRS selection knob
MB-90 Comple
I/O selection knob (FX1 only)
Cursor button
LC-68 Comple
Hold knob

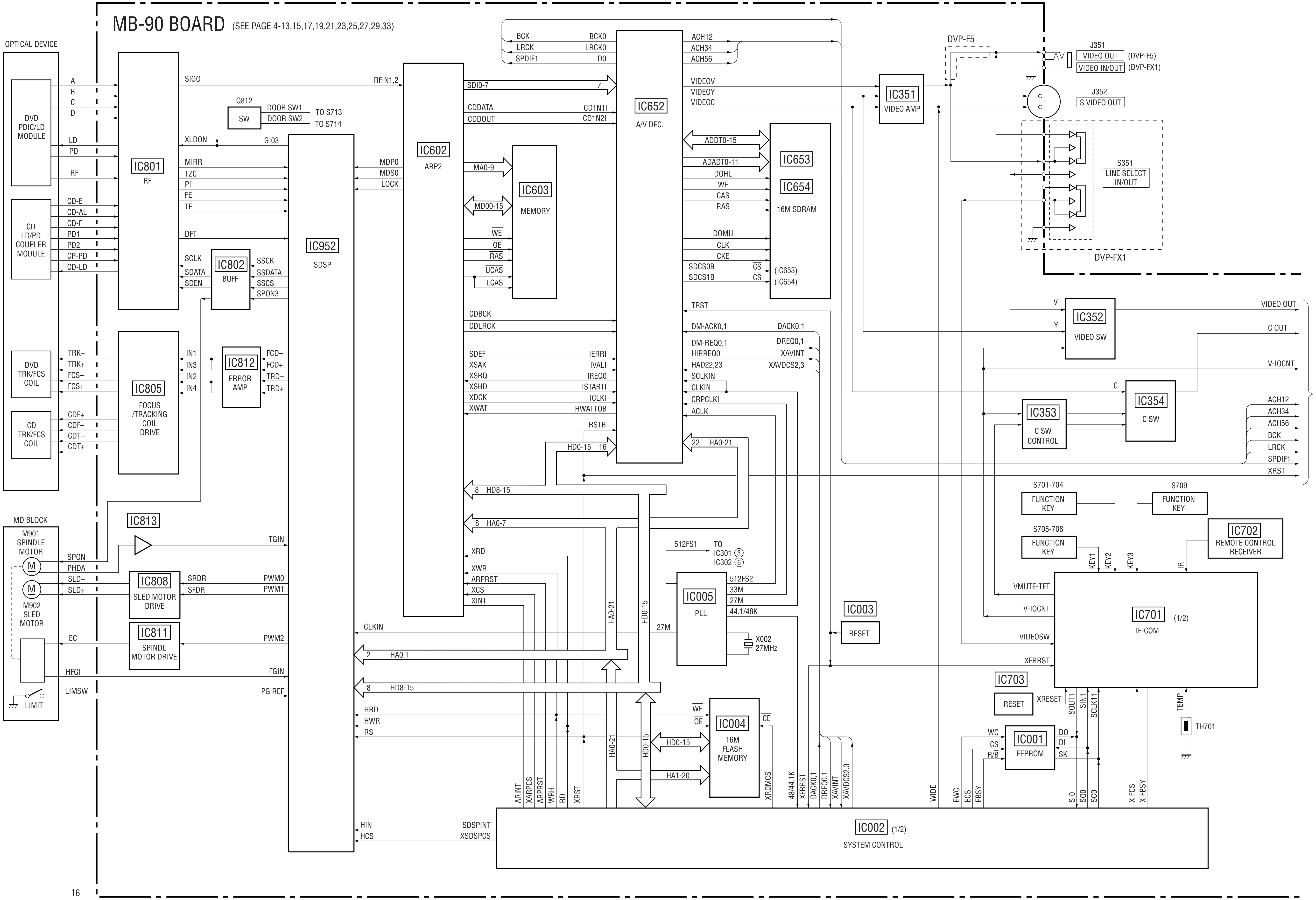
2-6. DISPLAY PANEL (FX1)


LCD cover
②
Link chassis assy
⑧ Screws
⑨ Screws (M1.7 x 2)
Open button (LCD)
Inverter
⑩
⑪
⑫
⑥
Display panel
TP-61 comple
⑦
PWB flexible
⑤ Screw
③ Screws
③ Screws
Speaker
④
Speaker
③ Screws
④
Lock claws
① Screw
(M1.7 x 4)
LCD cushion
① Screws
(M1.7 x 4)
LCD cushions
LCD cushion
① Screws
(M1.7 x 4)
③ Screws
LCD cabinet
LCD cushion

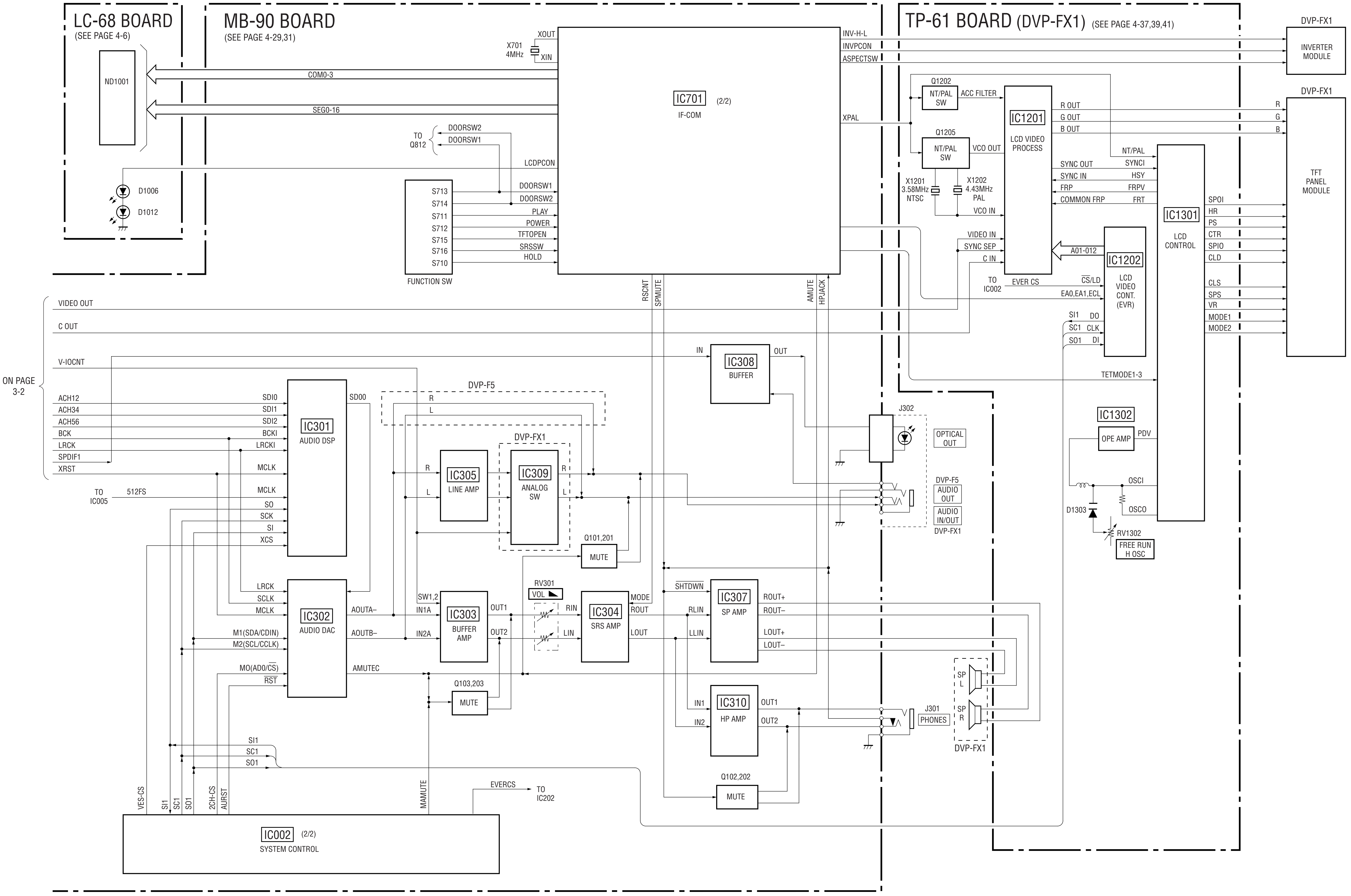
MEMO

SECTION 3
BLOCK DIAGRAMS

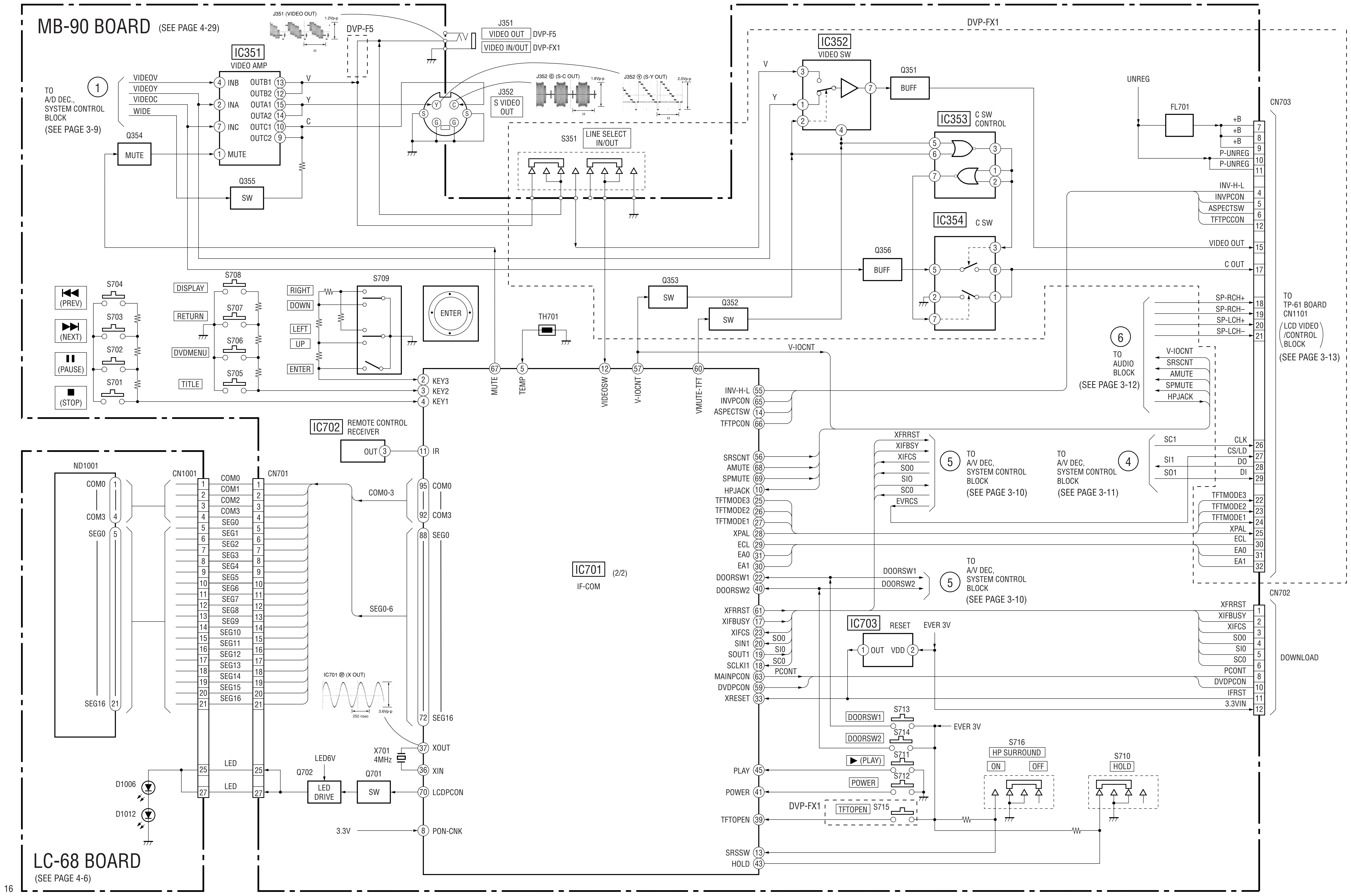
3-1. OVERALL BLOCK DIAGRAM (1/2)


MB-90 BOARD (SEE PAGE 4-13,15,17,19,21,23,25,27,29,33)
OPTICAL DEVICE
DVD PDIC/LD MODULE
A
B
C
D
LD
PD
RF
CD LD/PD COUPLER MODULE
CD-E
CD-AL
CD-F
PD1
PD2
CP-PD
CD-LD
IC801
RF
SIGO
XLDON
MIRR
TZC
PI
FE
TE
DFT
SCLK
SDATA
SDEN
Q812
SW
DOOR SW1
DOOR SW2
TO S713
TO S714
GI03
IC802
BUFF
SSCK
SSDATA
SSCS
SPON3
IC952
SDSP
RFIN1,2
MDP0
MDS0
LOCK
IC602
ARP2
SDI0-7
7
CDDATA
CDDOUT
CD1N1I
CD1N2I
MA0-9
MD00-15
WE
OE
RAS
UCAS
LCAS
IC603
MEMORY
BCK
LRCK
SPDIF1
BCK0
LRCK0
D0
IC652
A/V DEC.
ACH12
ACH34
ACH56
VIDEOV
VIDEOY
VIDEOC
ADDT0-15
ADADT0-11
DOHL
WE
CAS
RAS
DOMU
CLK
CKE
SDCS0B
SDCS1B
CS
CS
(IC653)
(IC654)
IC653
IC654
16M SDRAM
IC351
VIDEO AMP
DVP-F5
J351
VIDEO OUT (DVP-F5)
VIDEO IN/OUT (DVP-FX1)
J352
S VIDEO OUT
S351
LINE SELECT IN/OUT
DVP-FX1
DVD TRK/FCS COIL
TRK–
TRK+
FCS–
FCS+
CD TRK/FCS COIL
CDF+
CDF–
CDT–
CDT+
IC805
FOCUS /TRACKING COIL DRIVE
IN1
IN3
IN2
IN4
IC812
ERROR AMP
FCD–
FCD+
TRD–
TRD+
CDBCK
CDLRCK
SDEF
XSAK
XSRQ
XSHD
XDCK
XWAT
IERRI
IVALI
IREQ0
ISTARTI
ICLKI
HWATTOB
RSTB
HD0-15
16
22
HA0-21
TRST
DM-ACK0,1
DM-REQ0,1
HIRREQ0
HAD22,23
SCLKIN
CLKIN
CRPCLKI
ACLK
DACK0,1
DREQ0,1
XAVINT
XAVDCS2,3
V
Y
IC352
VIDEO SW
VIDEO OUT
C OUT
V-IOCNT
C
IC353
C SW CONTROL
IC354
C SW
ACH12
ACH34
ACH56
BCK
LRCK
SPDIF1
XRST
ON PAGE 3-3
8
HD8-15
8
HA0-7
MD BLOCK
M901 SPINDLE MOTOR
M
SPON
PHDA
SLD–
SLD+
M
M902 SLED MOTOR
EC
HFGI
LIMSW
LIMIT
IC813
TGIN
IC808
SLED MOTOR DRIVE
SRDR
SFDR
PWM0
PWM1
IC811
SPINDL MOTOR DRIVE
PWM2
FGIN
PG REF
XRD
XWR
ARPRST
XCS
XINT
CLKIN
2
HA0,1
8
HD8-15
HRD
HWR
RS
HIN
HCS
SDSPINT
XSDSPCS
HA0-21
HD0-15
27M
512FS1
TO IC301 ③ IC302 ⑥
IC005
PLL
512FS2
33M
27M
44.1/48K
X002 27MHz
IC003
RESET
WE
OE
CE
IC004
16M FLASH MEMORY
HD0-15
HA1-20
HA0-21
HD0-15
ARINT
XARPCS
ARPRST
WRH
RD
XRST
XRDMCS
48/44.1K
XFRRST
DACK0,1
DREQ0,1
XAVINT
XAVDCS2,3
WIDE
EWC
ECS
EBSY
SI0
SO0
SC0
XIFCS
XIFBSY
IC002 (1/2)
SYSTEM CONTROL
S701-704
FUNCTION KEY
S705-708
FUNCTION KEY
S709
FUNCTION KEY
IC702
REMOTE CONTROL RECEIVER
KEY1
KEY2
KEY3
IR
VMUTE-TFT
V-IOCNT
VIDEOSW
XFRRST
IC701 (1/2)
IF-COM
IC703
RESET
XRESET
SOUT1
SIN1
SCLK11
TEMP
TH701
WC
CS
R/B
IC001
EEPROM
DO
DI
SK

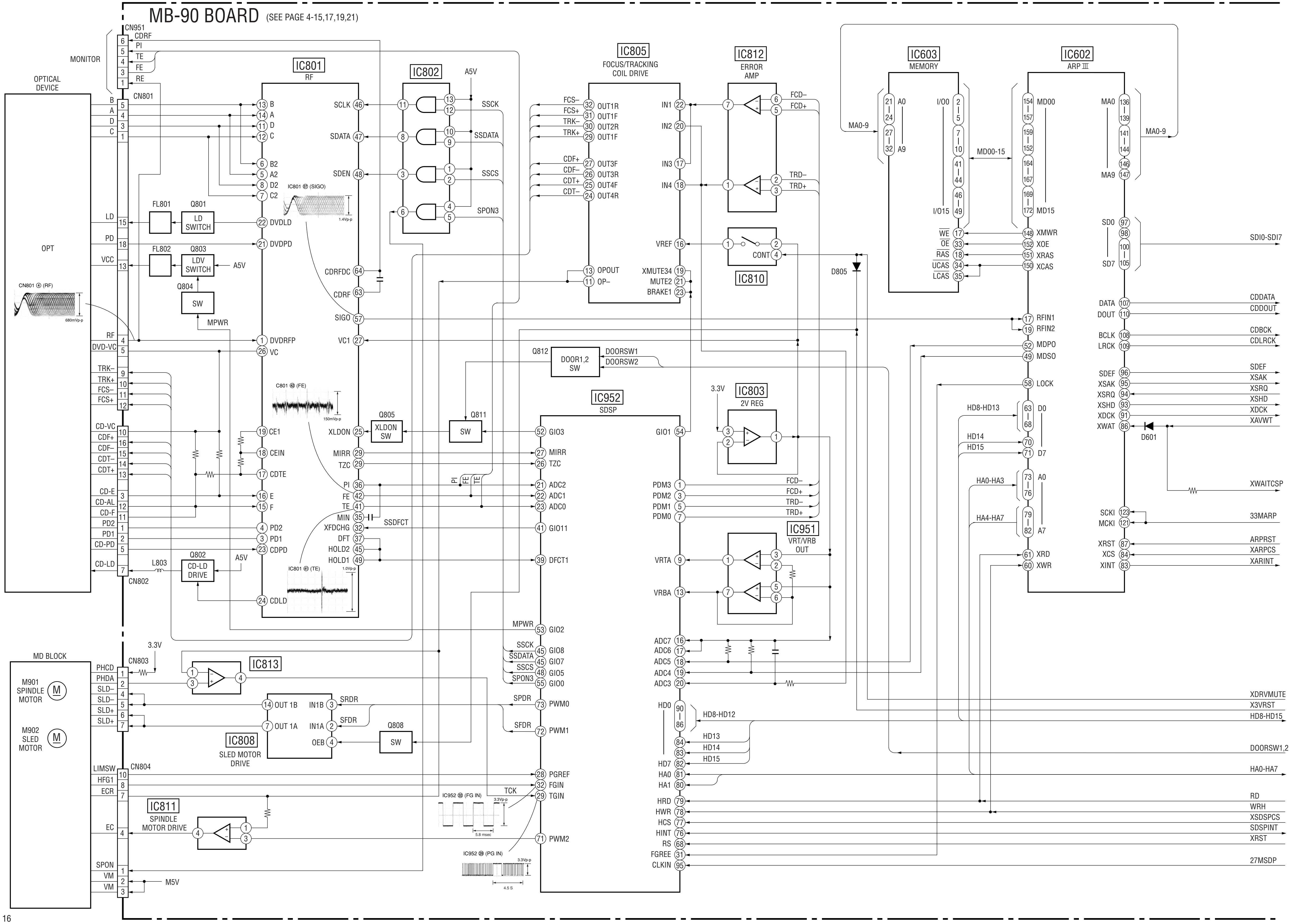
3-2. OVERALL BLOCK DIAGRAM (2/2)


LC-68 BOARD
(SEE PAGE 4-6)
ND1001
D1006
D1012
MB-90 BOARD
(SEE PAGE 4-29,31)
X701
4MHz
XOUT
XIN
COM0-3
SEG0-16
IC701
(2/2)
IF-COM
TO
Q812
DOORSW2
DOORSW1
LCDPCON
S713
S714
S711
S712
S715
S716
S710
FUNCTION SW
DOORSW1
DOORSW2
PLAY
POWER
TFTOPEN
SRSSW
HOLD
INV-H-L
INVPCON
ASPECTSW
XPAL
RSCNT
SPMUTE
AMUTE
HPJACK
TP-61 BOARD (DVP-FX1)
(SEE PAGE 4-37,39,41)
DVP-FX1
INVERTER MODULE
DVP-FX1
TFT PANEL MODULE
Q1202
NT/PAL SW
ACC FILTER
Q1205
NT/PAL SW
VCO OUT
X1201
3.58MHz
NTSC
X1202
4.43MHz
PAL
VCO IN
VIDEO IN
SYNC SEP
C IN
IC1201
LCD VIDEO PROCESS
R OUT
G OUT
B OUT
R
G
B
NT/PAL
SYNC OUT
SYNCI
SYNC IN
HSY
FRP
FRPV
COMMON FRP
FRT
A01-012
IC1202
LCD VIDEO CONT. (EVR)
TO
IC002
EVER CS
CS/LD
EA0,EA1,ECL
SI1
DO
SC1
CLK
SO1
DI
IC1301
LCD CONTROL
SPOI
HR
PS
CTR
SPIO
CLD
CLS
SPS
VR
MODE1
MODE2
TETMODE1-3
IC1302
OPE AMP
PDV
OSCI
OSCO
D1303
RV1302
FREE RUN H OSC
VIDEO OUT
C OUT
V-IOCNT
ON PAGE
3-2
ACH12
ACH34
ACH56
BCK
LRCK
SPDIF1
XRST
TO
IC005
512FS
IC301
AUDIO DSP
SDI0
SDI1
SDI2
BCKI
LRCKI
MCLK
MCLK
SO
SCK
SI
XCS
SD00
DVP-F5
R
L
IC308
BUFFER
IN
OUT
J302
OPTICAL OUT
DVP-F5
AUDIO OUT
AUDIO IN/OUT
DVP-FX1
IC305
LINE AMP
R
L
DVP-FX1
IC309
ANALOG SW
R
L
Q101,201
MUTE
IC302
AUDIO DAC
LRCK
SCLK
MCLK
M1(SDA/CDIN)
M2(SCL/CCLK)
MO(AD0/CS)
RST
AOUTA–
AOUTB–
AMUTEC
SW1,2
IN1A
IN2A
IC303
BUFFER AMP
OUT1
OUT2
RV301
VOL
IC304
SRS AMP
RIN
LIN
MODE
ROUT
LOUT
Q103,203
MUTE
SHTDWN
IC307
SP AMP
RLIN
LLIN
ROUT+
ROUT–
LOUT+
LOUT–
IC310
HP AMP
IN1
IN2
OUT1
OUT2
Q102,202
MUTE
SP L
SP R
DVP-FX1
J301
PHONES
SI1
SC1
SO1
VES-CS
SI1
SC1
SO1
2CH-CS
AURST
MAMUTE
EVERCS
TO
IC202
IC002
(2/2)
SYSTEM CONTROL

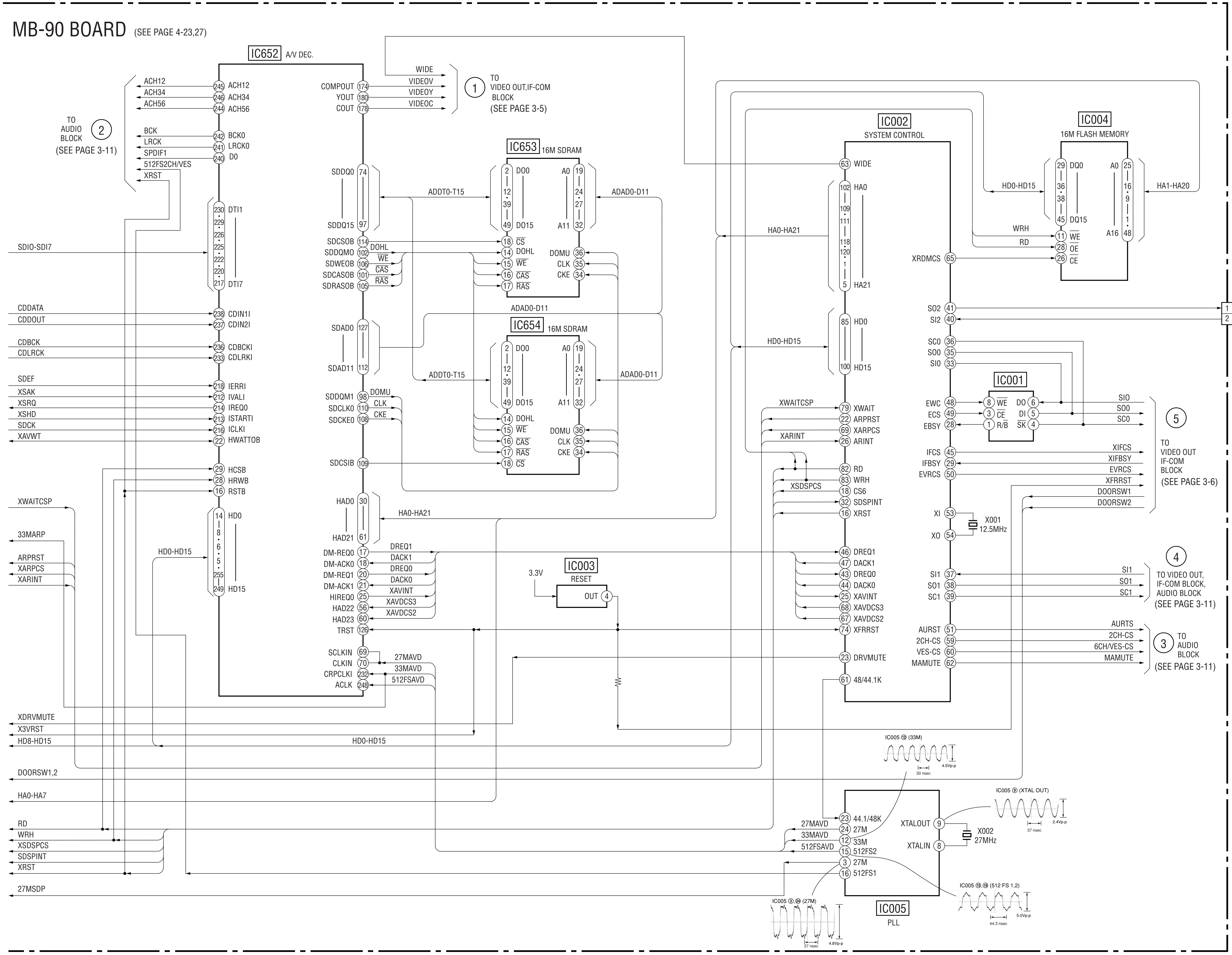
3-3. VIDEO OUT BLOCK DIAGRAM


MB-90 BOARD (SEE PAGE 4-29)
LC-68 BOARD (SEE PAGE 4-6)
IC351 VIDEO AMP
INB
INA
INC
MUTE
OUTB1
OUTB2
OUTA1
OUTA2
OUTC1
OUTC2
TO A/D DEC., SYSTEM CONTROL BLOCK (SEE PAGE 3-9)
VIDEOV
VIDEOY
VIDEOC
WIDE
Q354 MUTE
Q355 SW
J351 (VIDEO OUT)
DVP-F5
J351
VIDEO OUT DVP-F5
VIDEO IN/OUT DVP-FX1
J352 S VIDEO OUT
J352 ⓒ (S-C OUT)
J352 ⓨ (S-Y OUT)
1.2Vp-p
1.8Vp-p
2.0Vp-p
S351 LINE SELECT IN/OUT
DVP-FX1
IC352 VIDEO SW
Q351 BUFF
IC353 C SW CONTROL
IC354 C SW
Q356 BUFF
Q353 SW
Q352 SW
UNREG
FL701
CN703
+B
P-UNREG
INV-H-L
INVPCON
ASPECTSW
TFTPCCON
VIDEO OUT
C OUT
SP-RCH+
SP-RCH–
SP-LCH+
SP-LCH–
TO TP-61 BOARD CN1101 (LCD VIDEO /CONTROL BLOCK) (SEE PAGE 3-13)
TO AUDIO BLOCK (SEE PAGE 3-12)
V-IOCNT
SRSCNT
AMUTE
SPMUTE
HPJACK
S704 (PREV)
S703 (NEXT)
S702 (PAUSE)
S701 (STOP)
S708 DISPLAY
S707 RETURN
S706 DVDMENU
S705 TITLE
S709 RIGHT DOWN LEFT UP ENTER
ENTER
TH701
KEY3
KEY2
KEY1
MUTE
TEMP
VIDEOSW
V-IOCNT
VMUTE-TFT
IC702 REMOTE CONTROL RECEIVER
OUT
IR
IC701 (2/2) IF-COM
INV-H-L
INVPCON
ASPECTSW
TFTPCON
SRSCNT
AMUTE
SPMUTE
HPJACK
TFTMODE3
TFTMODE2
TFTMODE1
XPAL
ECL
EA0
EA1
DOORSW1
DOORSW2
XFRRST
XIFBUSY
XIFCS
SIN1
SOUT1
SCLKI1
MAINPCON
DVDPCON
XRESET
PLAY
POWER
TFTOPEN
SRSSW
HOLD
XFRRST XIFBSY XIFCS SO0 SI0 SC0 EVRCS
TO A/V DEC, SYSTEM CONTROL BLOCK (SEE PAGE 3-10)
TO A/V DEC, SYSTEM CONTROL BLOCK (SEE PAGE 3-11)
SC1 SI1 SO1
CLK CS/LD DO DI
CN702
XFRRST XIFBUSY XIFCS SO0 SI0 SC0 PCONT DVDPCON IFRST 3.3VIN
DOWNLOAD
IC703 RESET
OUT VDD
EVER 3V
S713 DOORSW1
S714 DOORSW2
S711 (PLAY)
S712 POWER
DVP-FX1 S715 TFTOPEN
S716 HP SURROUND ON OFF
S710 HOLD
ND1001
COM0 COM3 SEG0 SEG16
CN1001
CN701
COM0–COM3
SEG0–SEG16
COM0-3
SEG0-6
COM0 COM3 SEG0 SEG16
IC701 ㊲ (X OUT)
250 nsec
3.6Vp-p
X701 4MHz
XOUT
XIN
LCDPCON
PON-CNK
3.3V
LED6V
Q702 LED DRIVE
Q701 SW
LED
D1006
D1012
16

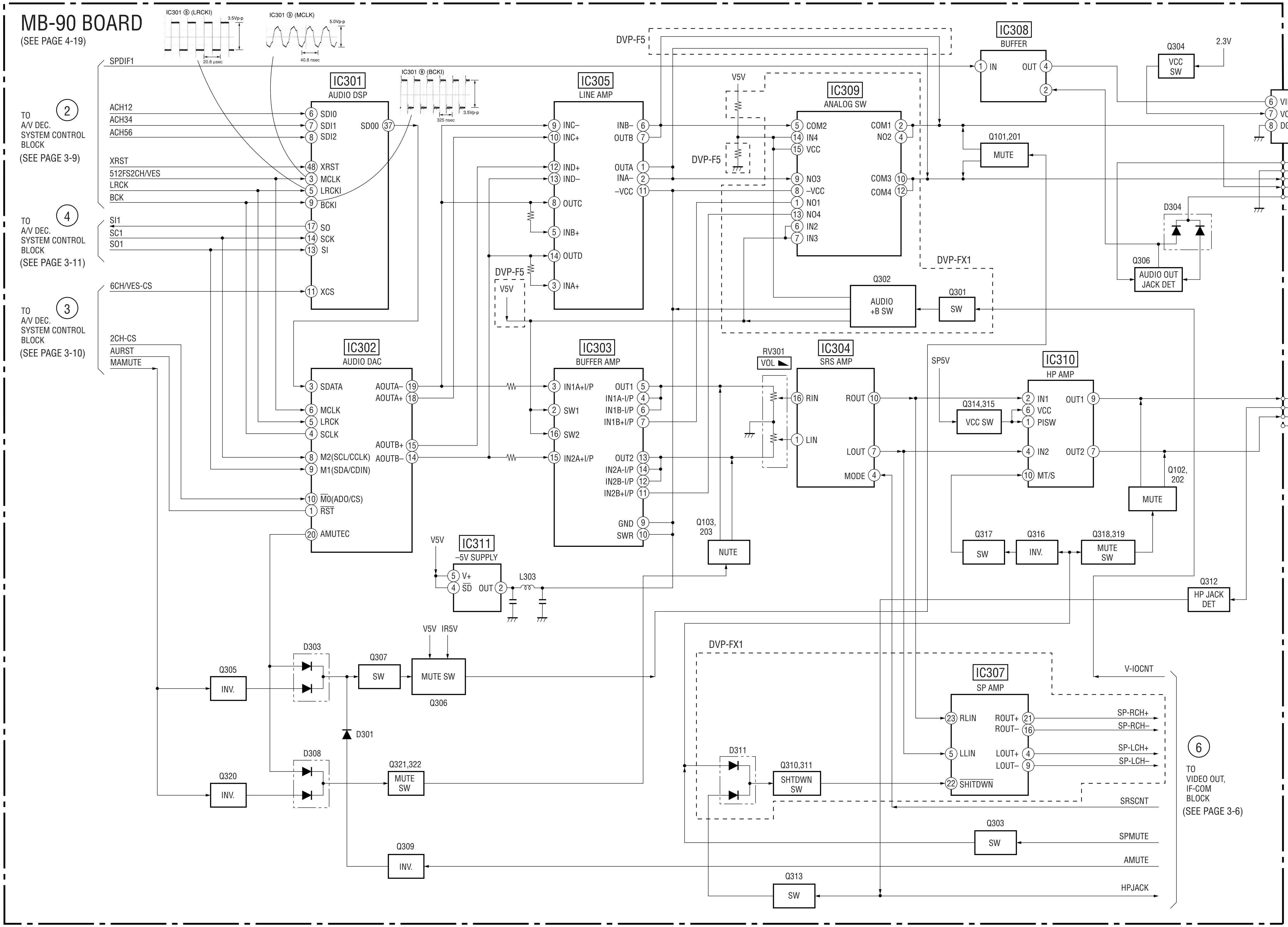
3-4. RF BLOCK DIAGRAM (1/2)


MB-90 BOARD (SEE PAGE 4-15,17,19,21)
CN951
CDRF
PI
TE
FE
RE
MONITOR
OPTICAL DEVICE
OPT
CN801
B
A
D
C
LD
PD
VCC
RF
DVD-VC
TRK–
TRK+
FCS–
FCS+
CD-VC
CDF+
CDF–
CDT–
CDT+
CD-E
CD-AL
CD-F
PD2
PD1
CD-PD
CD-LD
CN802
CN801 ④ (RF)
680mVp-p
FL801
Q801
LD SWITCH
FL802
Q803
LDV SWITCH
A5V
Q804
SW
MPWR
L803
Q802
CD-LD DRIVE
IC801
RF
B
A
D
C
B2
A2
D2
C2
DVDLD
DVDPD
DVDRFP
VC
CE1
CEIN
CDTE
E
F
PD2
PD1
CDPD
CDLD
SCLK
SDATA
SDEN
CDRFDC
CDRF
SIGO
VC1
XLDON
MIRR
TZC
PI
FE
TE
MIN
XFDCHG
DFT
HOLD2
HOLD1
IC801 ㊼ (SIGO)
1.4Vp-p
C801 ㊷ (FE)
150mVp-p
IC801 ㊶ (TE)
1.0Vp-p
IC802
SSCK
SSDATA
SSCS
SPON3
SSDFCT
Q805
XLDON SW
Q811
SW
Q812
DOOR1,2 SW
DOORSW1
DOORSW2
IC805
FOCUS/TRACKING COIL DRIVE
FCS–
FCS+
TRK–
TRK+
OUT1R
OUT1F
OUT2R
OUT1F
CDF+
CDF–
CDT+
CDT–
OUT3F
OUT3R
OUT4F
OUT4R
OPOUT
OP–
IN1
IN2
IN3
IN4
VREF
XMUTE34
MUTE2
BRAKE1
IC812
ERROR AMP
FCD–
FCD+
TRD–
TRD+
IC810
CONT
D805
IC803
2V REG
3.3V
IC951
VRT/VRB OUT
IC952
SDSP
GIO3
MIRR
TZC
ADC2
ADC1
ADC0
GIO11
DFCT1
GIO2
GIO8
GIO7
GIO5
GIO0
PWM0
PWM1
PGREF
FGIN
TGIN
PWM2
GIO1
PDM3
PDM2
PDM1
PDM0
VRTA
VRBA
ADC7
ADC6
ADC5
ADC4
ADC3
HD0
HD7
HA0
HA1
HRD
HWR
HCS
HINT
RS
FGREE
CLKIN
HD8-HD12
HD13
HD14
HD15
TCK
IC952 ㉜ (FG IN)
3.3Vp-p
5.8 msec
IC952 ㉙ (PG IN)
3.3Vp-p
4.5 S
IC603
MEMORY
A0
A9
I/O0
I/O15
WE
OE
RAS
UCAS
LCAS
MA0-9
MD00-15
IC602
ARP Ⅲ
MD00
MD15
MA0
MA9
XMWR
XOE
XRAS
XCAS
RFIN1
RFIN2
MDPO
MDSO
LOCK
HD8-HD13
D0
HD14
HD15
D7
HA0-HA3
A0
HA4-HA7
A7
XRD
XWR
SD0
SD7
SDI0-SDI7
DATA
DOUT
CDDATA
CDDOUT
BCLK
LRCK
CDBCK
CDLRCK
SDEF
XSAK
XSRQ
XSHD
XDCK
XWAT
XAVWT
D601
XWAITCSP
SCKI
MCKI
33MARP
XRST
XCS
XINT
ARPRST
XARPCS
XARINT
XDRVMUTE
X3VRST
HD8-HD15
DOORSW1,2
HA0-HA7
RD
WRH
XSDSPCS
SDSPINT
XRST
27MSDP
MD BLOCK
M901 SPINDLE MOTOR
M902 SLED MOTOR
M
PHCD
PHDA
SLD–
SLD+
LIMSW
HFG1
ECR
EC
SPON
VM
CN803
CN804
3.3V
IC813
IC808
SLED MOTOR DRIVE
OUT 1B
OUT 1A
IN1B
IN1A
OEB
SRDR
SFDR
SPDR
Q808
SW
IC811
SPINDLE MOTOR DRIVE
M5V

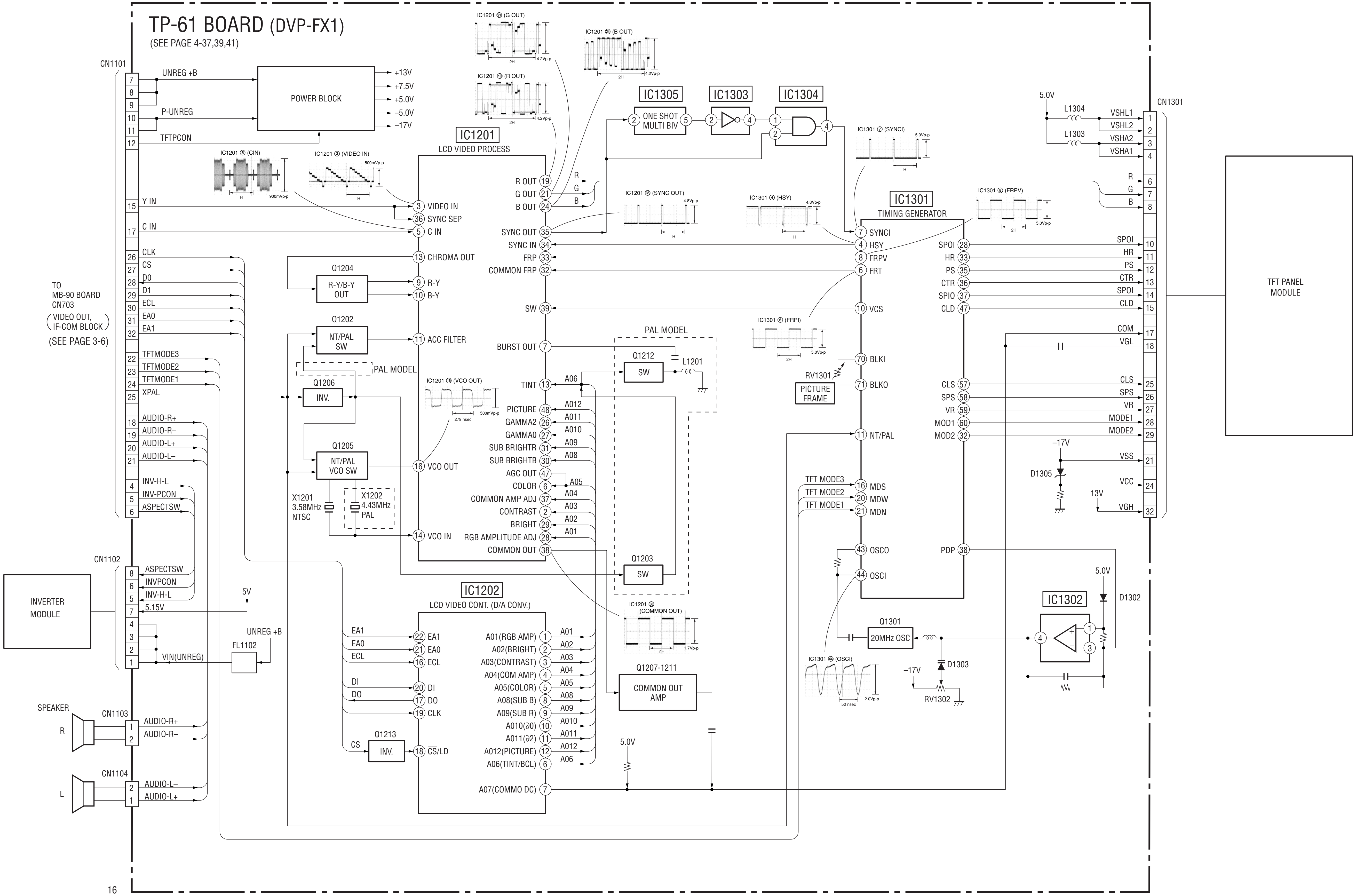
3-5. RF BLOCK DIAGRAM (2/2)


MB-90 BOARD (SEE PAGE 4-23,27)
IC652 A/V DEC.
IC653 16M SDRAM
IC654 16M SDRAM
IC002 SYSTEM CONTROL
IC004 16M FLASH MEMORY
IC001
IC003 RESET
IC005 PLL
3.3V
OUT
X001 12.5MHz
X002 27MHz
CN001
TXD
RXD
TO DIAG JIG
① TO VIDEO OUT,IF-COM BLOCK (SEE PAGE 3-5)
② TO AUDIO BLOCK (SEE PAGE 3-11)
③ TO AUDIO BLOCK (SEE PAGE 3-11)
④ TO VIDEO OUT, IF-COM BLOCK, AUDIO BLOCK (SEE PAGE 3-11)
⑤ TO VIDEO OUT IF-COM BLOCK (SEE PAGE 3-6)
ACH12
ACH34
ACH56
BCK
LRCK
SPDIF1
512FS2CH/VES
XRST
BCK0
LRCK0
D0
DTI1
DTI7
SDIO-SDI7
CDDATA
CDDOUT
CDBCK
CDLRCK
CDIN1I
CDIN2I
CDBCKI
CDLRKI
SDEF
XSAK
XSRQ
XSHD
SDCK
XAVWT
IERRI
IVALI
IREQ0
ISTARTI
ICLKI
HWATTOB
HCSB
HRWB
RSTB
XWAITCSP
33MARP
ARPRST
XARPCS
XARINT
HD0-HD15
HD0
HD15
WIDE
VIDEOV
VIDEOY
VIDEOC
COMPOUT
YOUT
COUT
SDDQ0
SDDQ15
SDCSOB
SDDQMO
SDWEOB
SDCASOB
SDRASOB
DOHL
WE
CAS
RAS
ADDT0-T15
ADAD0-D11
SDAD0
SDAD11
SDDQM1
SDCLK0
SDCKE0
DOMU
CLK
CKE
SDCSIB
HAD0
HAD21
HA0-HA21
DM-REQ0
DM-ACK0
DM-REQ1
DM-ACK1
HIREQ0
HAD22
HAD23
TRST
DREQ1
DACK1
DREQ0
DACK0
XAVINT
XAVDCS3
XAVDCS2
SCLKIN
CLKIN
CRPCLKI
ACLK
27MAVD
33MAVD
512FSAVD
DQ0
DQ15
A0
A11
A16
CS
DOMU
CLK
CKE
HD0-HD15
HA1-HA20
WRH
RD
OE
CE
XRDMCS
WIDE
HA0
HA21
XWAIT
ARPRST
XARPCS
ARINT
XSDSPCS
CS6
SDSPINT
XRST
DRVMUTE
48/44.1K
SO2
SI2
SC0
SO0
SI0
EWC
ECS
EBSY
R/B
DI
DO
SK
SIO
SOO
SCO
IFCS
IFBSY
EVRCS
XIFCS
XIFBSY
EVRCS
XFRRST
DOORSW1
DOORSW2
XI
XO
SI1
SO1
SC1
AURST
2CH-CS
VES-CS
MAMUTE
6CH/VES-CS
XFRRST
XDRVMUTE
X3VRST
HD8-HD15
DOORSW1,2
HA0-HA7
RD
WRH
XSDSPCS
SDSPINT
XRST
27MSDP
44.1/48K
27M
33M
512FS2
512FS1
XTALOUT
XTALIN
IC005 ⑫ (33M)
30 nsec
4.5Vp-p
IC005 ⑨ (XTAL OUT)
37 nsec
2.4Vp-p
IC005 ⑮,⑯ (512 FS 1,2)
44.3 nsec
5.0Vp-p
IC005 ③,㉔ (27M)
37 nsec
4.8Vp-p

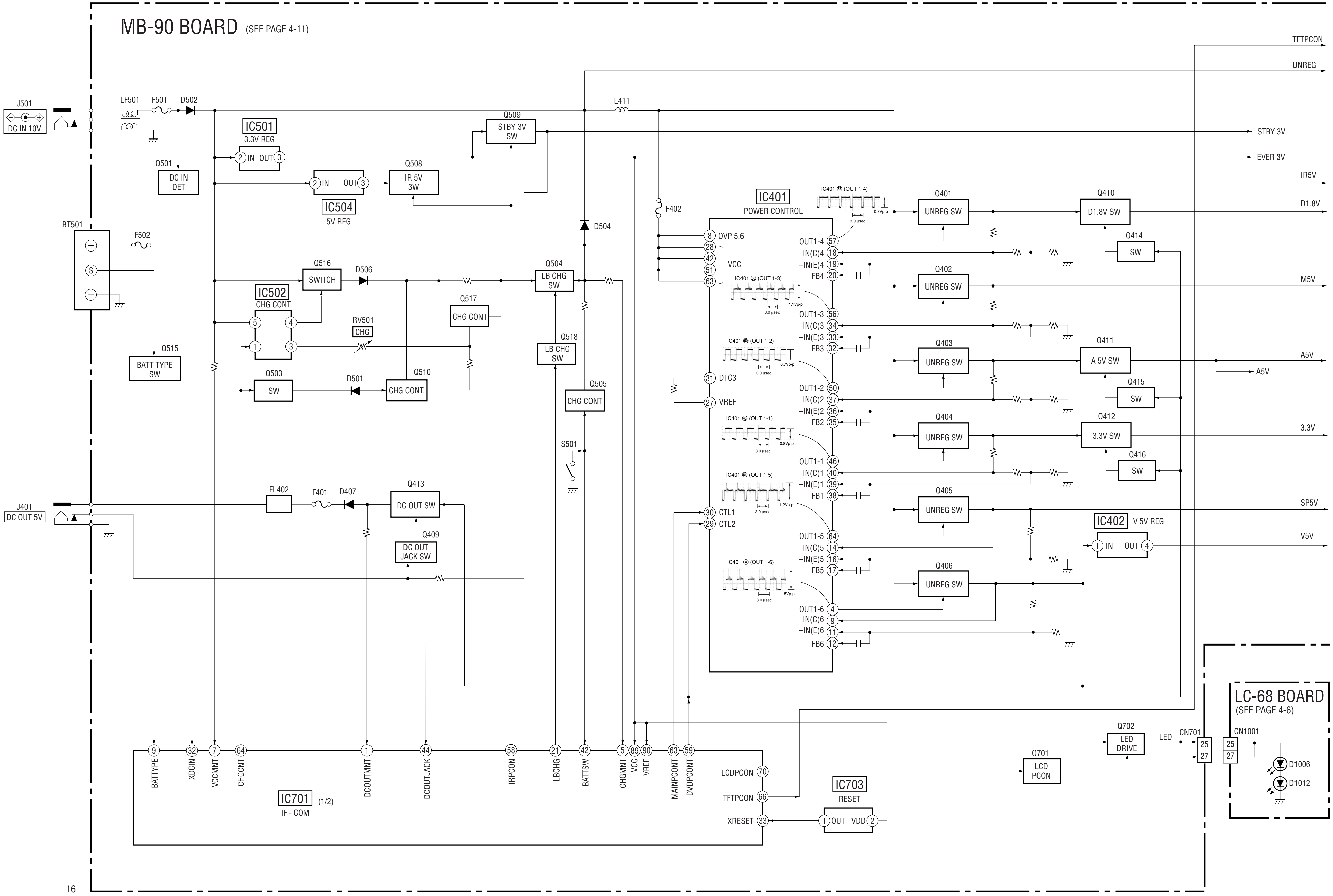
3-6. AUDIO BLOCK DIAGRAM


MB-90 BOARD
(SEE PAGE 4-19)
IC301 ⑤ (LRCKI)
3.5Vp-p
20.8 μsec
IC301 ③ (MCLK)
5.0Vp-p
40.8 nsec
IC301 ⑨ (BCKI)
3.5Vp-p
325 nsec
SPDIF1
TO A/V DEC. SYSTEM CONTROL BLOCK ② (SEE PAGE 3-9)
ACH12
ACH34
ACH56
XRST
512FS2CH/VES
LRCK
BCK
TO A/V DEC. SYSTEM CONTROL BLOCK ④ (SEE PAGE 3-11)
SI1
SC1
SO1
TO A/V DEC. SYSTEM CONTROL BLOCK ③ (SEE PAGE 3-10)
6CH/VES-CS
2CH-CS
AURST
MAMUTE
IC301 AUDIO DSP
⑥ SDI0
⑦ SDI1
⑧ SDI2
㊽ XRST
③ MCLK
⑤ LRCKI
⑨ BCKI
⑰ SO
⑭ SCK
⑬ SI
⑪ XCS
SD00 ㊲
IC305 LINE AMP
⑨ INC–
⑩ INC+
⑫ IND+
⑬ IND–
⑧ OUTC
⑤ INB+
⑭ OUTD
③ INA+
INB– ⑥
OUTB ⑦
OUTA ①
INA– ②
–VCC ⑪
DVP-F5
V5V
IC302 AUDIO DAC
③ SDATA
⑥ MCLK
⑤ LRCK
④ SCLK
⑧ M2(SCL/CCLK)
⑨ M1(SDA/CDIN)
⑩ M0(ADO/CS)
① RST
⑳ AMUTEC
AOUTA– ⑲
AOUTA+ ⑱
AOUTB+ ⑮
AOUTB– ⑭
IC303 BUFFER AMP
③ IN1A+I/P
② SW1
⑯ SW2
⑮ IN2A+I/P
OUT1 ⑤
IN1A-I/P ④
IN1B-I/P ⑥
IN1B+I/P ⑦
OUT2 ⑬
IN2A-I/P ⑭
IN2B-I/P ⑫
IN2B+I/P ⑪
GND ⑨
SWR ⑩
V5V
IC311 –5V SUPPLY
⑤ V+
④ SD
OUT ②
L303
Q103, 203
NUTE
DVP-F5
V5V
DVP-F5
IC309 ANALOG SW
⑤ COM2
⑭ IN4
⑮ VCC
⑨ NO3
⑧ –VCC
① NO1
⑬ NO4
⑥ IN2
⑦ IN3
COM1 ②
NO2 ④
COM3 ⑩
COM4 ⑫
DVP-FX1
Q302 AUDIO +B SW
Q301 SW
RV301 VOL
IC304 SRS AMP
⑯ RIN
① LIN
ROUT ⑩
LOUT ⑦
MODE ④
IC308 BUFFER
① IN
OUT ④
②
Q304 VCC SW
2.3V
J302
⑥ VIN
⑦ VCC
⑧ DGND
OPTICAL OUT
Q101,201 MUTE
AUDIO OUT
D304
Q306 AUDIO OUT JACK DET
SP5V
IC310 HP AMP
Q314,315 VCC SW
② IN1
⑥ VCC
① PISW
④ IN2
⑩ MT/S
OUT1 ⑨
OUT2 ⑦
J301 PHONES
Q102, 202 MUTE
Q317 SW
Q316 INV.
Q318,319 MUTE SW
Q312 HP JACK DET
V5V IR5V
D303
Q305 INV.
Q307 SW
MUTE SW
Q306
D301
D308
Q320 INV.
Q321,322 MUTE SW
Q309 INV.
DVP-FX1
D311
Q310,311 SHTDWN SW
IC307 SP AMP
㉓ RLIN
⑤ LLIN
㉒ SHITDWN
ROUT+ ㉑
ROUT– ⑯
LOUT+ ④
LOUT– ⑨
SP-RCH+
SP-RCH–
SP-LCH+
SP-LCH–
V-IOCNT
SRSCNT
Q303 SW
SPMUTE
AMUTE
Q313 SW
HPJACK
⑥ TO VIDEO OUT, IF-COM BLOCK (SEE PAGE 3-6)

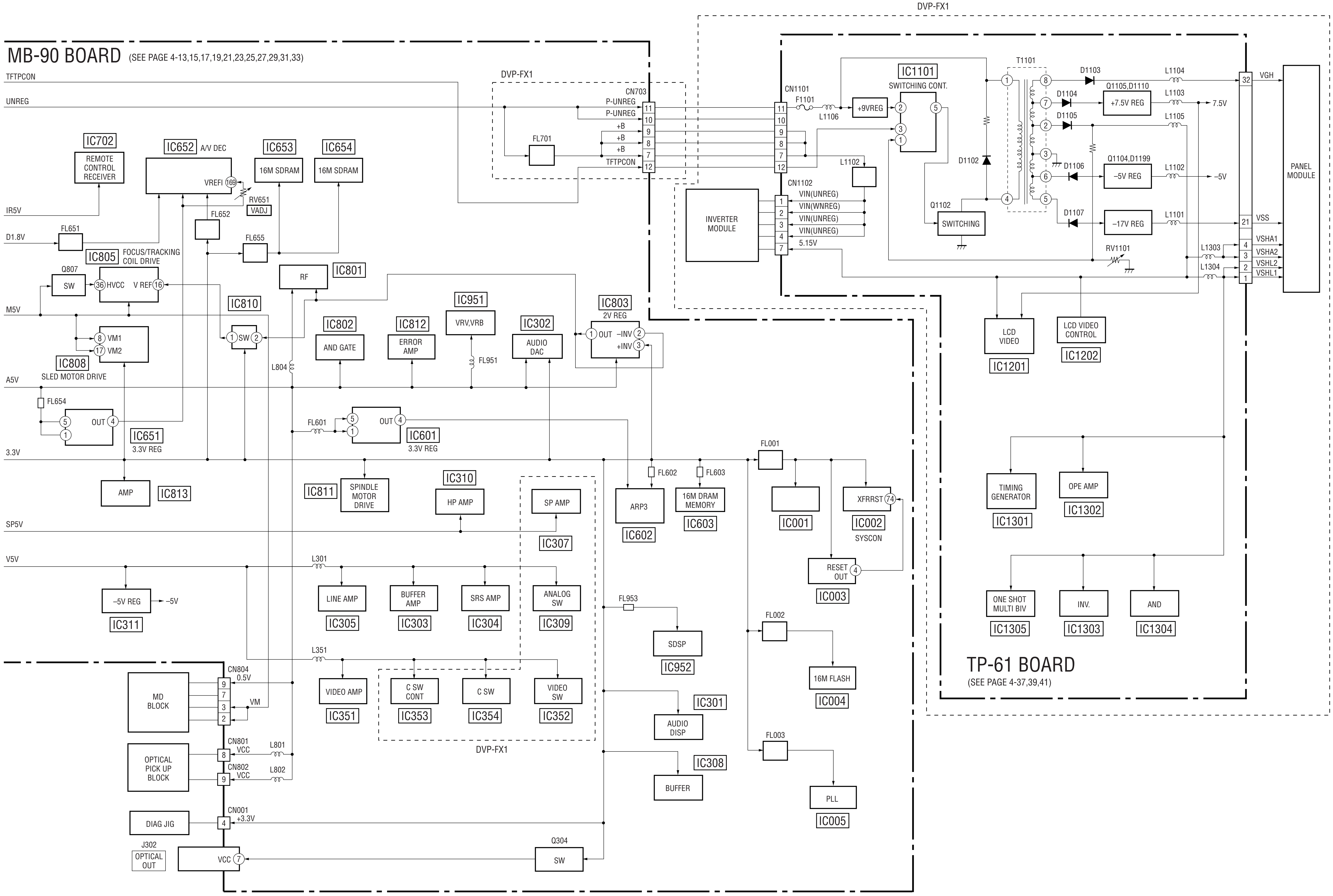
3-7. LCD BLOCK DIAGRAM


TP-61 BOARD (DVP-FX1)
(SEE PAGE 4-37,39,41)
CN1101
UNREG +B
P-UNREG
TFTPCON
POWER BLOCK
+13V
+7.5V
+5.0V
–5.0V
–17V
Y IN
C IN
CLK
CS
D0
D1
ECL
EA0
EA1
TO
MB-90 BOARD
CN703
(VIDEO OUT, IF-COM BLOCK)
(SEE PAGE 3-6)
TFTMODE3
TFTMODE2
TFTMODE1
XPAL
AUDIO-R+
AUDIO-R–
AUDIO-L+
AUDIO-L–
INV-H-L
INV-PCON
ASPECTSW
IC1201 ⑤ (CIN)
IC1201 ③ (VIDEO IN)
900mVp-p
500mVp-p
H
IC1201 ㉑ (G OUT)
IC1201 ㉔ (B OUT)
IC1201 ⑲ (R OUT)
4.2Vp-p
2H
IC1201
LCD VIDEO PROCESS
VIDEO IN
SYNC SEP
C IN
CHROMA OUT
R-Y
B-Y
ACC FILTER
VCO OUT
VCO IN
R OUT
G OUT
B OUT
SYNC OUT
SYNC IN
FRP
COMMON FRP
SW
BURST OUT
TINT
PICTURE
GAMMA2
GAMMA0
SUB BRIGHTR
SUB BRIGHTB
AGC OUT
COLOR
COMMON AMP ADJ
CONTRAST
BRIGHT
RGB AMPLITUDE ADJ
COMMON OUT
Q1204
R-Y/B-Y OUT
Q1202
NT/PAL SW
PAL MODEL
Q1206
INV.
Q1205
NT/PAL VCO SW
X1201
3.58MHz
NTSC
X1202
4.43MHz
PAL
IC1201 ⑯ (VCO OUT)
279 nsec
500mVp-p
IC1201 ㉟ (SYNC OUT)
4.8Vp-p
IC1301 ④ (HSY)
IC1305
ONE SHOT MULTI BIV
IC1303
IC1304
IC1301 ⑦ (SYNCI)
5.0Vp-p
IC1301 ⑧ (FRPV)
IC1301 ⑥ (FRPI)
IC1301
TIMING GENERATOR
SYNCI
HSY
FRPV
FRT
VCS
BLKI
BLKO
NT/PAL
MDS
MDW
MDN
OSCO
OSCI
SPOI
HR
PS
CTR
SPIO
CLD
CLS
SPS
VR
MOD1
MOD2
PDP
PAL MODEL
Q1212
SW
L1201
Q1203
SW
A06
A012
A011
A010
A09
A08
A05
A04
A03
A02
A01
RV1301
PICTURE FRAME
TFT MODE3
TFT MODE2
TFT MODE1
5.0V
L1304
L1303
VSHL1
VSHL2
VSHA2
VSHA1
CN1301
R
G
B
SPOI
HR
PS
CTR
SPOI
CLD
COM
VGL
CLS
SPS
VR
MODE1
MODE2
–17V
VSS
D1305
VCC
13V
VGH
TFT PANEL MODULE
CN1102
ASPECTSW
INVPCON
INV-H-L
5.15V
5V
VIN(UNREG)
INVERTER MODULE
UNREG +B
FL1102
IC1202
LCD VIDEO CONT. (D/A CONV.)
EA1
EA0
ECL
DI
DO
CLK
CS/LD
CS
Q1213
INV.
A01(RGB AMP)
A02(BRIGHT)
A03(CONTRAST)
A04(COM AMP)
A05(COLOR)
A08(SUB B)
A09(SUB R)
A010(∂0)
A011(∂2)
A012(PICTURE)
A06(TINT/BCL)
A07(COMMO DC)
IC1201 ㊳ (COMMON OUT)
1.7Vp-p
Q1207-1211
COMMON OUT AMP
5.0V
Q1301
20MHz OSC
IC1301 ㊹ (OSCI)
50 nsec
2.0Vp-p
D1303
–17V
RV1302
IC1302
5.0V
D1302
SPEAKER
CN1103
R
AUDIO-R+
AUDIO-R–
CN1104
L
AUDIO-L–
AUDIO-L+
16

3-8. POWER BLOCK DIAGRAM (1/2)


MB-90 BOARD (SEE PAGE 4-11)
J501
DC IN 10V
LF501
F501
D502
Q501
DC IN DET
IC501
3.3V REG
2 IN OUT 3
Q509
STBY 3V SW
IC504
5V REG
2 IN OUT 3
Q508
IR 5V 3W
L411
F402
D504
BT501
F502
Q516
SWITCH
D506
IC502
CHG CONT.
5
4
1
3
RV501
CHG
Q517
CHG CONT
Q504
LB CHG SW
Q518
LB CHG SW
Q505
CHG CONT
Q503
SW
D501
Q510
CHG CONT.
Q515
BATT TYPE SW
S501
J401
DC OUT 5V
FL402
F401
D407
Q413
DC OUT SW
Q409
DC OUT JACK SW
IC401
POWER CONTROL
8 OVP 5.6
28
42
51
63
VCC
31 DTC3
27 VREF
30 CTL1
29 CTL2
OUT1-4 57
IN(C)4 18
–IN(E)4 19
FB4 20
OUT1-3 56
IN(C)3 34
–IN(E)3 33
FB3 32
OUT1-2 50
IN(C)2 37
–IN(E)2 36
FB2 35
OUT1-1 46
IN(C)1 40
–IN(E)1 39
FB1 38
OUT1-5 64
IN(C)5 14
–IN(E)5 16
FB5 17
OUT1-6 4
IN(C)6 9
–IN(E)6 11
FB6 12
IC401 ㊼ (OUT 1-4)
0.7Vp-p
3.0 µsec
IC401 ㊻ (OUT 1-3)
1.1Vp-p
3.0 µsec
IC401 ㊿ (OUT 1-2)
0.7Vp-p
3.0 µsec
IC401 ㊻ (OUT 1-1)
0.8Vp-p
3.0 µsec
IC401 (64) (OUT 1-5)
1.2Vp-p
3.0 µsec
IC401 ④ (OUT 1-6)
1.5Vp-p
3.0 µsec
Q401
UNREG SW
Q402
UNREG SW
Q403
UNREG SW
Q404
UNREG SW
Q405
UNREG SW
Q406
UNREG SW
Q410
D1.8V SW
Q414
SW
Q411
A 5V SW
Q415
SW
Q412
3.3V SW
Q416
SW
IC402
V 5V REG
1 IN OUT 4
TFTPCON
UNREG
STBY 3V
EVER 3V
IR5V
D1.8V
M5V
A5V
A5V
3.3V
SP5V
V5V
IC701 (1/2)
IF - COM
9 BATTYPE
32 XDCIN
7 VCCMNT
64 CHGCNT
1 DCOUTMNT
44 DCOUTJACK
58 IRPCON
21 LBCHG
42 BATTSW
5 CHGMNT
89 VCC
90 VREF
63 MAINPCONT
59 DVDPCONT
LCDPCON 70
TFTPCON 66
XRESET 33
IC703
RESET
1 OUT VDD 2
Q701
LCD PCON
Q702
LED DRIVE
LED
CN701
25
27
LC-68 BOARD (SEE PAGE 4-6)
CN1001
25
27
D1006
D1012
16

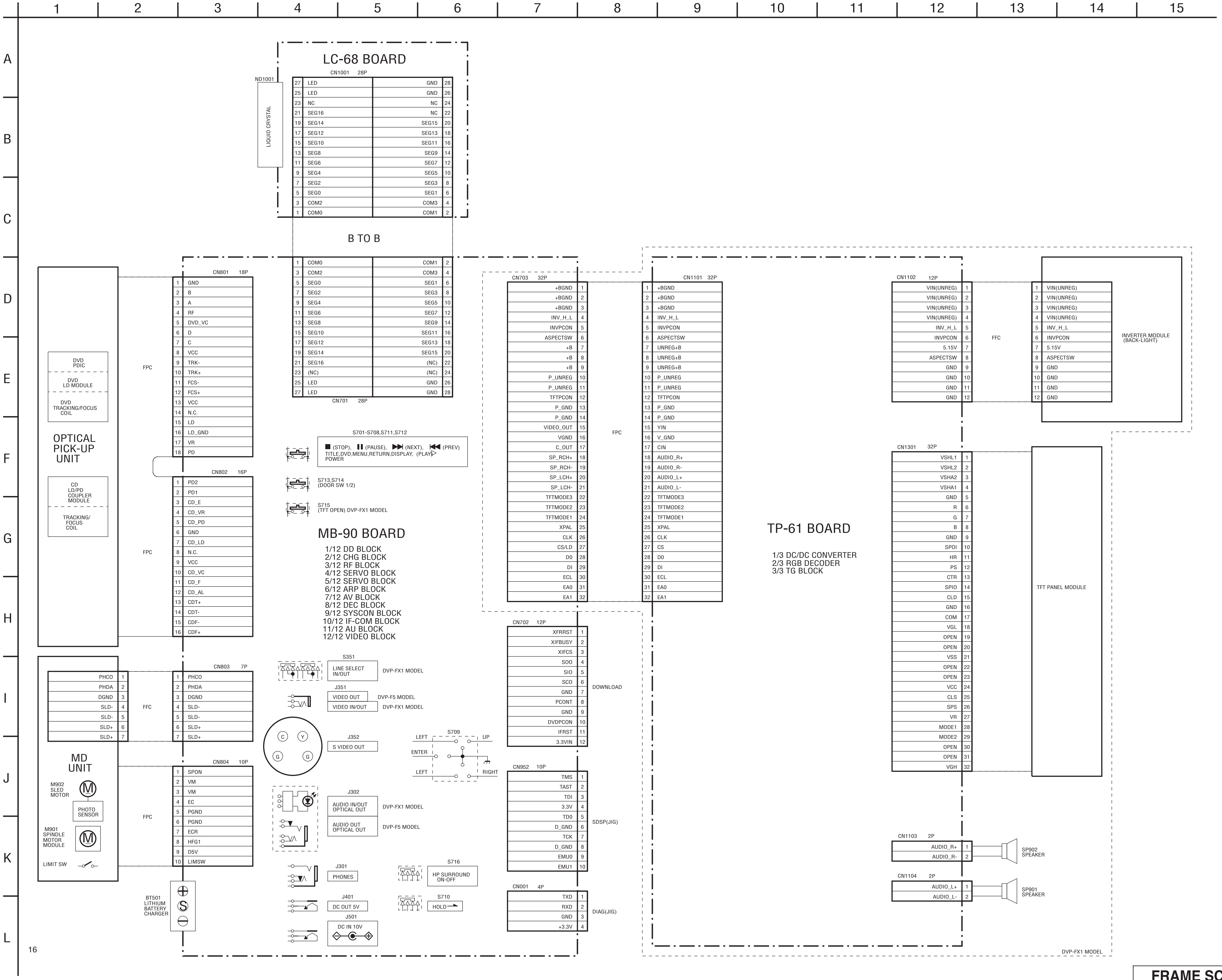
3-9. POWER BLOCK DIAGRAM (2/2)


DVP-FX1
MB-90 BOARD (SEE PAGE 4-13,15,17,19,21,23,25,27,29,31,33)
TFTPCON
UNREG
IR5V
D1.8V
M5V
A5V
3.3V
SP5V
V5V
DVP-FX1
CN703
P-UNREG
P-UNREG
+B
+B
+B
TFTPCON
11
10
9
8
7
12
FL701
IC702
REMOTE CONTROL RECEIVER
IC652 A/V DEC
VREFI 169
RV651
VADJ
FL652
IC653
16M SDRAM
IC654
16M SDRAM
FL651
FL655
IC805
FOCUS/TRACKING COIL DRIVE
Q807
SW
36 HVCC
V REF 16
RF
IC801
IC810
SW
IC808
SLED MOTOR DRIVE
8 VM1
17 VM2
IC802
AND GATE
IC812
ERROR AMP
IC951
VRV,VRB
FL951
IC302
AUDIO DAC
IC803
2V REG
OUT
–INV
+INV
L804
FL654
OUT
IC651
3.3V REG
FL601
OUT
IC601
3.3V REG
AMP
IC813
IC811
SPINDLE MOTOR DRIVE
IC310
HP AMP
SP AMP
IC307
FL602
FL603
ARP3
IC602
16M DRAM MEMORY
IC603
FL001
IC001
XFRRST 74
IC002
SYSCON
RESET OUT
IC003
L301
–5V REG
–5V
IC311
LINE AMP
IC305
BUFFER AMP
IC303
SRS AMP
IC304
ANALOG SW
IC309
FL953
SDSP
IC952
FL002
16M FLASH
IC004
L351
VIDEO AMP
IC351
C SW CONT
IC353
C SW
IC354
VIDEO SW
IC352
DVP-FX1
CN804
0.5V
MD BLOCK
VM
CN801
VCC
L801
CN802
VCC
L802
OPTICAL PICK UP BLOCK
CN001
+3.3V
DIAG JIG
J302
OPTICAL OUT
VCC 7
Q304
SW
IC301
AUDIO DISP
IC308
BUFFER
FL003
PLL
IC005
DVP-FX1
CN1101
F1101
L1106
+9VREG
IC1101
SWITCHING CONT.
T1101
D1102
Q1102
SWITCHING
L1102
CN1102
VIN(UNREG)
VIN(WNREG)
VIN(UNREG)
VIN(UNREG)
5.15V
INVERTER MODULE
D1103
L1104
D1104
Q1105,D1110
+7.5V REG
L1103
7.5V
D1105
L1105
D1106
Q1104,D1199
–5V REG
L1102
–5V
D1107
–17V REG
L1101
RV1101
L1303
L1304
VGH
VSS
VSHA1
VSHA2
VSHL2
VSHL1
32
21
4
3
2
1
PANEL MODULE
LCD VIDEO
IC1201
LCD VIDEO CONTROL
IC1202
TIMING GENERATOR
IC1301
OPE AMP
IC1302
ONE SHOT MULTI BIV
IC1305
INV.
IC1303
AND
IC1304
TP-61 BOARD
(SEE PAGE 4-37,39,41)

MEMO

SECTION 4
PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. FRAME SCHEMATIC DIAGRAM

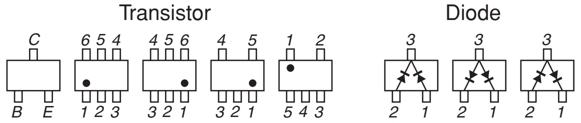

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
I
J
K
L
LC-68 BOARD
ND1001
LIQUID CRYSTAL
CN1001 28P
27 LED
25 LED
23 NC
21 SEG16
19 SEG14
17 SEG12
15 SEG10
13 SEG8
11 SEG6
9 SEG4
7 SEG2
5 SEG0
3 COM2
1 COM0
GND 28
GND 26
NC 24
NC 22
SEG15 20
SEG13 18
SEG11 16
SEG9 14
SEG7 12
SEG5 10
SEG3 8
SEG1 6
COM3 4
COM1 2
B TO B
CN701 28P
1 COM0
3 COM2
5 SEG0
7 SEG2
9 SEG4
11 SEG6
13 SEG8
15 SEG10
17 SEG12
19 SEG14
21 SEG16
23 (NC)
25 LED
27 LED
COM1 2
COM3 4
SEG1 6
SEG3 8
SEG5 10
SEG7 12
SEG9 14
SEG11 16
SEG13 18
SEG15 20
(NC) 22
(NC) 24
GND 26
GND 28
OPTICAL PICK-UP UNIT
DVD PDIC
DVD LD MODULE
DVD TRACKING/FOCUS COIL
CD LD/PD COUPLER MODULE
TRACKING/ FOCUS COIL
FPC
CN801 18P
1 GND
2 B
3 A
4 RF
5 DVD_VC
6 D
7 C
8 VCC
9 TRK-
10 TRK+
11 FCS-
12 FCS+
13 VCC
14 N.C.
15 LD
16 LD_GND
17 VR
18 PD
FPC
CN802 16P
1 PD2
2 PD1
3 CD_E
4 CD_VR
5 CD_PD
6 GND
7 CD_LD
8 N.C.
9 VCC
10 CD_VC
11 CD_F
12 CD_AL
13 CDT+
14 CDT-
15 CDF-
16 CDF+
S701-S708,S711,S712
■ (STOP), ❚❚ (PAUSE), ▶▶❙ (NEXT), ❙◀◀ (PREV)
TITLE,DVD,MENU,RETURN,DISPLAY, (PLAY▷
POWER
S713,S714
(DOOR SW 1/2)
S715
(TFT OPEN) DVP-FX1 MODEL
MB-90 BOARD
1/12 DD BLOCK
2/12 CHG BLOCK
3/12 RF BLOCK
4/12 SERVO BLOCK
5/12 SERVO BLOCK
6/12 ARP BLOCK
7/12 AV BLOCK
8/12 DEC BLOCK
9/12 SYSCON BLOCK
10/12 IF-COM BLOCK
11/12 AU BLOCK
12/12 VIDEO BLOCK
MD UNIT
PHCO 1
PHDA 2
DGND 3
SLD- 4
SLD- 5
SLD+ 6
SLD+ 7
FFC
CN803 7P
1 PHCO
2 PHDA
3 DGND
4 SLD-
5 SLD-
6 SLD+
7 SLD+
M902 SLED MOTOR
PHOTO SENSOR
M901 SPINDLE MOTOR MODULE
LIMIT SW
FPC
CN804 10P
1 SPON
2 VM
3 VM
4 EC
5 PGND
6 PGND
7 ECR
8 HFG1
9 D5V
10 LIMSW
BT501 LITHIUM BATTERY CHARGER
S351
LINE SELECT IN/OUT
DVP-FX1 MODEL
J351
VIDEO OUT
DVP-F5 MODEL
VIDEO IN/OUT
DVP-FX1 MODEL
C
Y
G
G
J352
S VIDEO OUT
S709
LEFT
UP
ENTER
LEFT
RIGHT
J302
AUDIO IN/OUT OPTICAL OUT
DVP-FX1 MODEL
AUDIO OUT OPTICAL OUT
DVP-F5 MODEL
J301
PHONES
S716
HP SURROUND ON-OFF
J401
DC OUT 5V
S710
HOLD
J501
DC IN 10V
CN703 32P
+BGND 1
+BGND 2
+BGND 3
INV_H_L 4
INVPCON 5
ASPECTSW 6
+B 7
+B 8
+B 9
P_UNREG 10
P_UNREG 11
TFTPCON 12
P_GND 13
P_GND 14
VIDEO_OUT 15
VGND 16
C_OUT 17
SP_RCH+ 18
SP_RCH- 19
SP_LCH+ 20
SP_LCH- 21
TFTMODE3 22
TFTMODE2 23
TFTMODE1 24
XPAL 25
CLK 26
CS/LD 27
D0 28
DI 29
ECL 30
EA0 31
EA1 32
FPC
CN1101 32P
1 +BGND
2 +BGND
3 +BGND
4 INV_H_L
5 INVPCON
6 ASPECTSW
7 UNREG+B
8 UNREG+B
9 UNREG+B
10 P_UNREG
11 P_UNREG
12 TFTPCON
13 P_GND
14 P_GND
15 YIN
16 V_GND
17 CIN
18 AUDIO_R+
19 AUDIO_R-
20 AUDIO_L+
21 AUDIO_L-
22 TFTMODE3
23 TFTMODE2
24 TFTMODE1
25 XPAL
26 CLK
27 CS
28 D0
29 DI
30 ECL
31 EA0
32 EA1
CN702 12P
XFRRST 1
XIFBUSY 2
XIFCS 3
SOO 4
SIO 5
SCO 6
GND 7
PCONT 8
GND 9
DVDPCON 10
IFRST 11
3.3VIN 12
DOWNLOAD
CN952 10P
TMS 1
TAST 2
TDI 3
3.3V 4
TD0 5
D_GND 6
TCK 7
D_GND 8
EMU0 9
EMU1 10
SDSP(JIG)
CN001 4P
TXD 1
RXD 2
GND 3
+3.3V 4
DIAG(JIG)
TP-61 BOARD
1/3 DC/DC CONVERTER
2/3 RGB DECODER
3/3 TG BLOCK
CN1102 12P
VIN(UNREG) 1
VIN(UNREG) 2
VIN(UNREG) 3
VIN(UNREG) 4
INV_H_L 5
INVPCON 6
5.15V 7
ASPECTSW 8
GND 9
GND 10
GND 11
GND 12
FFC
1 VIN(UNREG)
2 VIN(UNREG)
3 VIN(UNREG)
4 VIN(UNREG)
5 INV_H_L
6 INVPCON
7 5.15V
8 ASPECTSW
9 GND
10 GND
11 GND
12 GND
INVERTER MODULE (BACK-LIGHT)
CN1301 32P
VSHL1 1
VSHL2 2
VSHA2 3
VSHA1 4
GND 5
R 6
G 7
B 8
GND 9
SPOI 10
HR 11
PS 12
CTR 13
SPIO 14
CLD 15
GND 16
COM 17
VGL 18
OPEN 19
OPEN 20
VSS 21
OPEN 22
OPEN 23
VCC 24
CLS 25
SPS 26
VR 27
MODE1 28
MODE2 29
OPEN 30
OPEN 31
VGH 32
TFT PANEL MODULE
CN1103 2P
AUDIO_R+ 1
AUDIO_R- 2
SP902 SPEAKER
CN1104 2P
AUDIO_L+ 1
AUDIO_L- 2
SP901 SPEAKER
DVP-FX1 MODEL

4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS (In addition to this, the necessary note is printed in each block)

(For printed wiring boards)

- ▒ : Pattern from the side which enables seeing.
  (The other layers' patterns are not indicated.)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.



(For schematic diagrams)

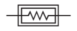
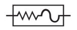
- All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10W unless otherwise noted.
  kΩ=1000Ω, MΩ=1000kΩ.
- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

Example	C541	L452
	22U	10UH
	TA A	2520

Kinds of capacitor

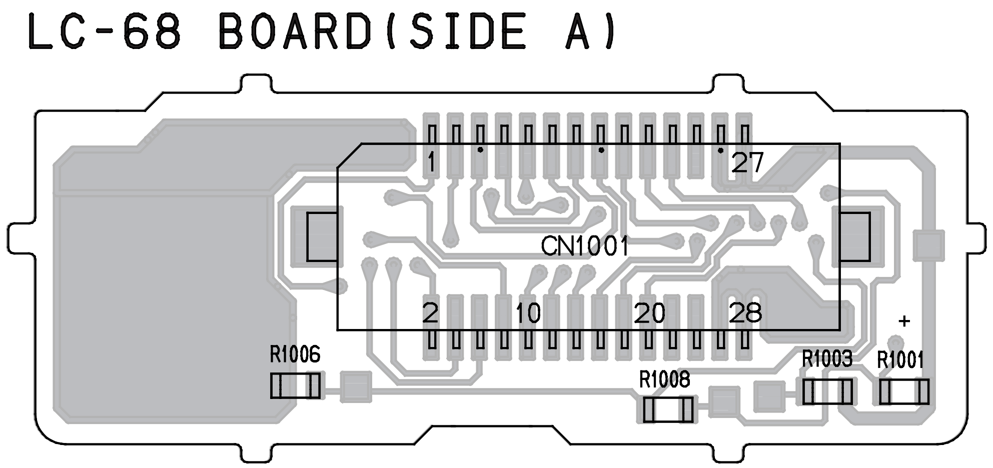
Temperature characteristics

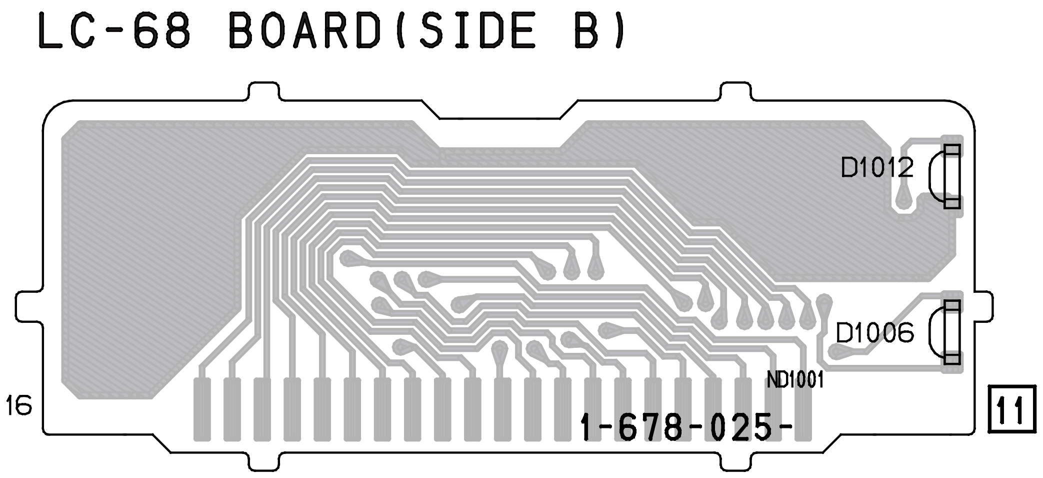
External dimensions (mm)

- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used.
  In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination.
  Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
-  : non flammable resistor
-  : fusible resistor
- ▭ : panel designation
- ▬ : B+ Line
- ╍ : B– Line
- ▭ : adjustment for repair.
- Circled numbers refer to waveforms.

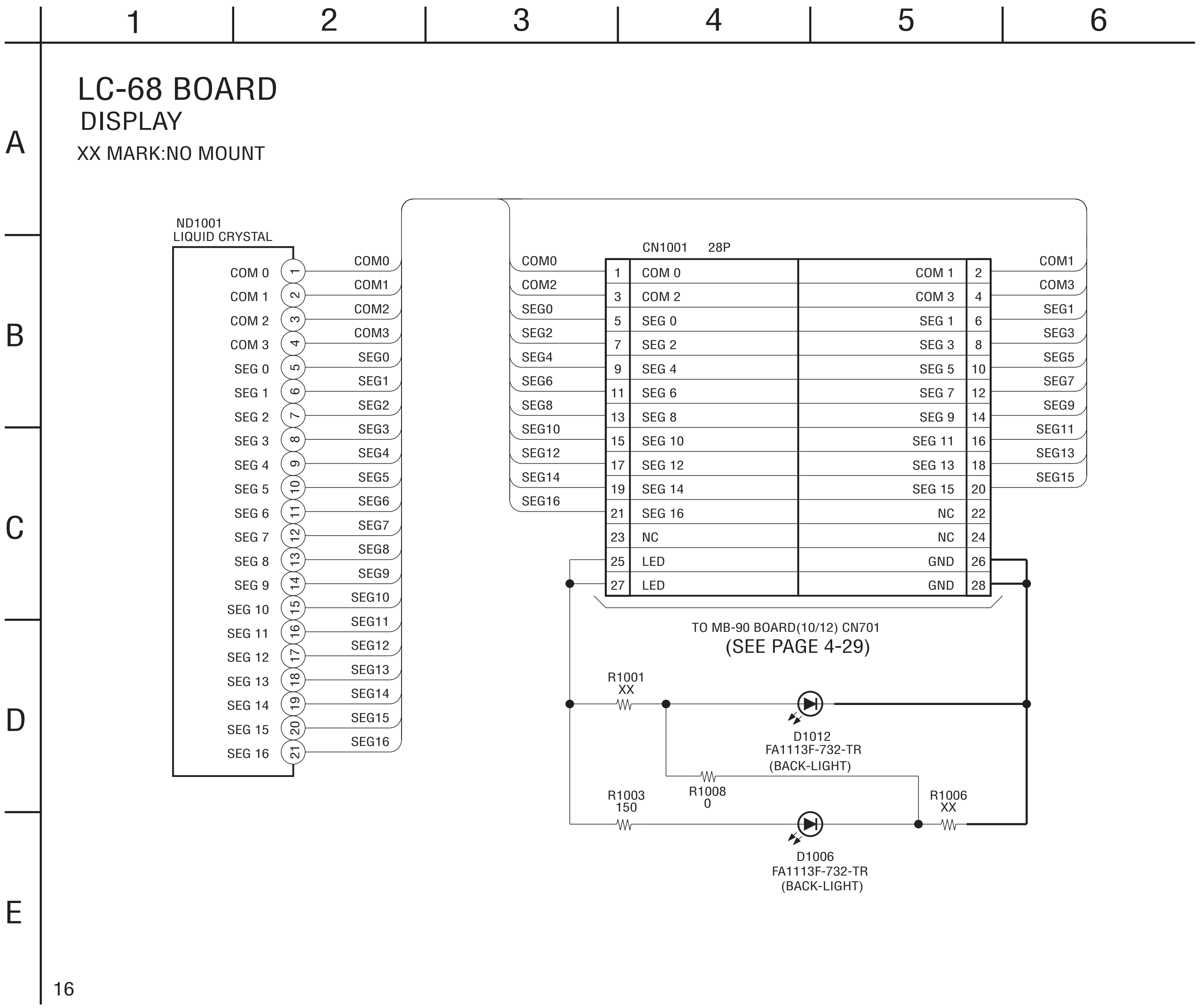
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

LC-68 (LCD) PRINTED WIRING BOARD


LC-68 BOARD(SIDE A)
1
27
CN1001
2
10
20
28
+
R1006
R1008
R1003
R1001

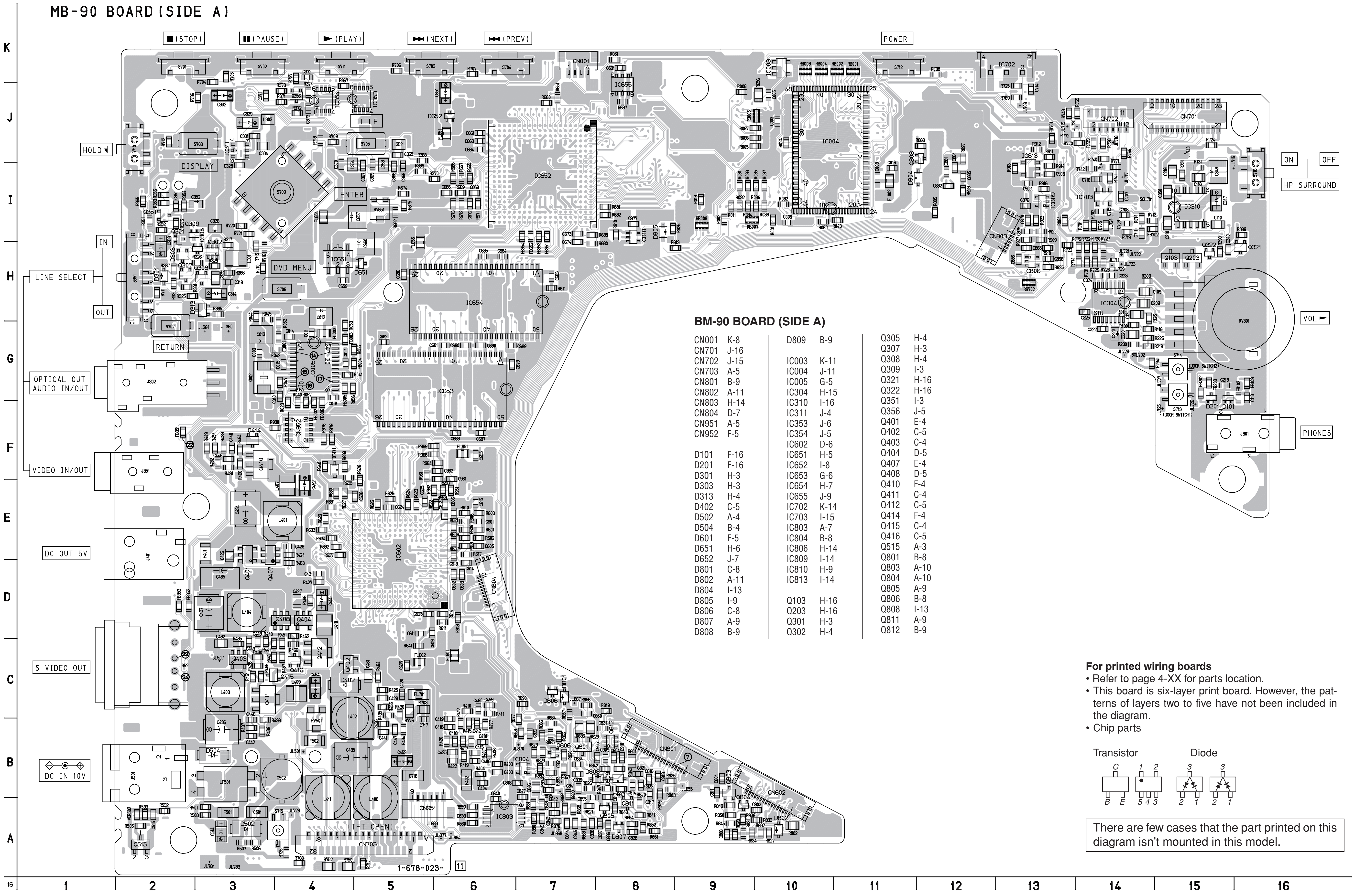

LC-68 BOARD(SIDE B)
D1012
D1006
ND1001
16
1-678-025-
11

For schematic diagram


1
2
3
4
5
6
A
B
C
D
E
LC-68 BOARD
DISPLAY
XX MARK:NO MOUNT
ND1001
LIQUID CRYSTAL
COM 0
COM 1
COM 2
COM 3
SEG 0
SEG 1
SEG 2
SEG 3
SEG 4
SEG 5
SEG 6
SEG 7
SEG 8
SEG 9
SEG 10
SEG 11
SEG 12
SEG 13
SEG 14
SEG 15
SEG 16
COM0
COM1
COM2
COM3
SEG0
SEG1
SEG2
SEG3
SEG4
SEG5
SEG6
SEG7
SEG8
SEG9
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
SEG16
CN1001 28P
1 COM 0 / COM 1 2
3 COM 2 / COM 3 4
5 SEG 0 / SEG 1 6
7 SEG 2 / SEG 3 8
9 SEG 4 / SEG 5 10
11 SEG 6 / SEG 7 12
13 SEG 8 / SEG 9 14
15 SEG 10 / SEG 11 16
17 SEG 12 / SEG 13 18
19 SEG 14 / SEG 15 20
21 SEG 16 / NC 22
23 NC / NC 24
25 LED / GND 26
27 LED / GND 28
TO MB-90 BOARD(10/12) CN701
(SEE PAGE 4-29)
R1001
XX
D1012
FA1113F-732-TR
(BACK-LIGHT)
R1003
150
R1008
0
R1006
XX
D1006
FA1113F-732-TR
(BACK-LIGHT)
16

MB-90 (RF, VIDEO, AUDIO, SERGVO, SYSTEM CONTROL) PRINTED WIRING BOARD

– Ref. No. MB-90 Board; 000 Series –


MB-90 BOARD (SIDE A)
■ (STOP)
❚❚ (PAUSE)
► (PLAY)
►►❚ (NEXT)
❚◄◄ (PREV)
POWER
HOLD
IN
LINE SELECT
OUT
OPTICAL OUT AUDIO IN/OUT
VIDEO IN/OUT
DC OUT 5V
S VIDEO OUT
DC IN 10V
DISPLAY
TITLE
ENTER
DVD MENU
RETURN
TFT OPEN
ON
OFF
HP SURROUND
VOL ►
PHONES
IC652
IC653
IC654
IC602
IC004
CN701
CN702
CN801
CN802
CN951
CN703
1-678-023-
11
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

BM-90 BOARD (SIDE A)

CN001	K-8
CN701	J-16
CN702	J-15
CN703	A-5
CN801	B-9
CN802	A-11
CN803	H-14
CN804	D-7
CN951	A-5
CN952	F-5
D101	F-16
D201	F-16
D301	H-3
D303	H-3
D313	H-4
D402	C-5
D502	A-4
D504	B-4
D601	F-5
D651	H-6
D652	J-7
D801	C-8
D802	A-11
D804	I-13
D805	I-9
D806	C-8
D807	A-9
D808	B-9
D809	B-9
IC003	K-11
IC004	J-11
IC005	G-5
IC304	H-15
IC310	I-16
IC311	J-4
IC353	J-6
IC354	J-5
IC602	D-6
IC651	H-5
IC652	I-8
IC653	G-6
IC654	H-7
IC655	J-9
IC702	K-14
IC703	I-15
IC803	A-7
IC804	B-8
IC806	H-14
IC809	I-14
IC810	H-9
IC813	I-14
Q103	H-16
Q203	H-16
Q301	H-3
Q302	H-4
Q305	H-4
Q307	H-3
Q308	H-4
Q309	I-3
Q321	H-16
Q322	H-16
Q351	I-3
Q356	J-5
Q401	E-4
Q402	C-5
Q403	C-4
Q404	D-5
Q407	E-4
Q408	D-5
Q410	F-4
Q411	C-4
Q412	C-5
Q414	F-4
Q415	C-4
Q416	C-5
Q515	A-3
Q801	B-8
Q803	A-10
Q804	A-10
Q805	A-9
Q806	B-8
Q808	I-13
Q811	A-9
Q812	B-9

For printed wiring boards

- Refer to page 4-XX for parts location.
- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts

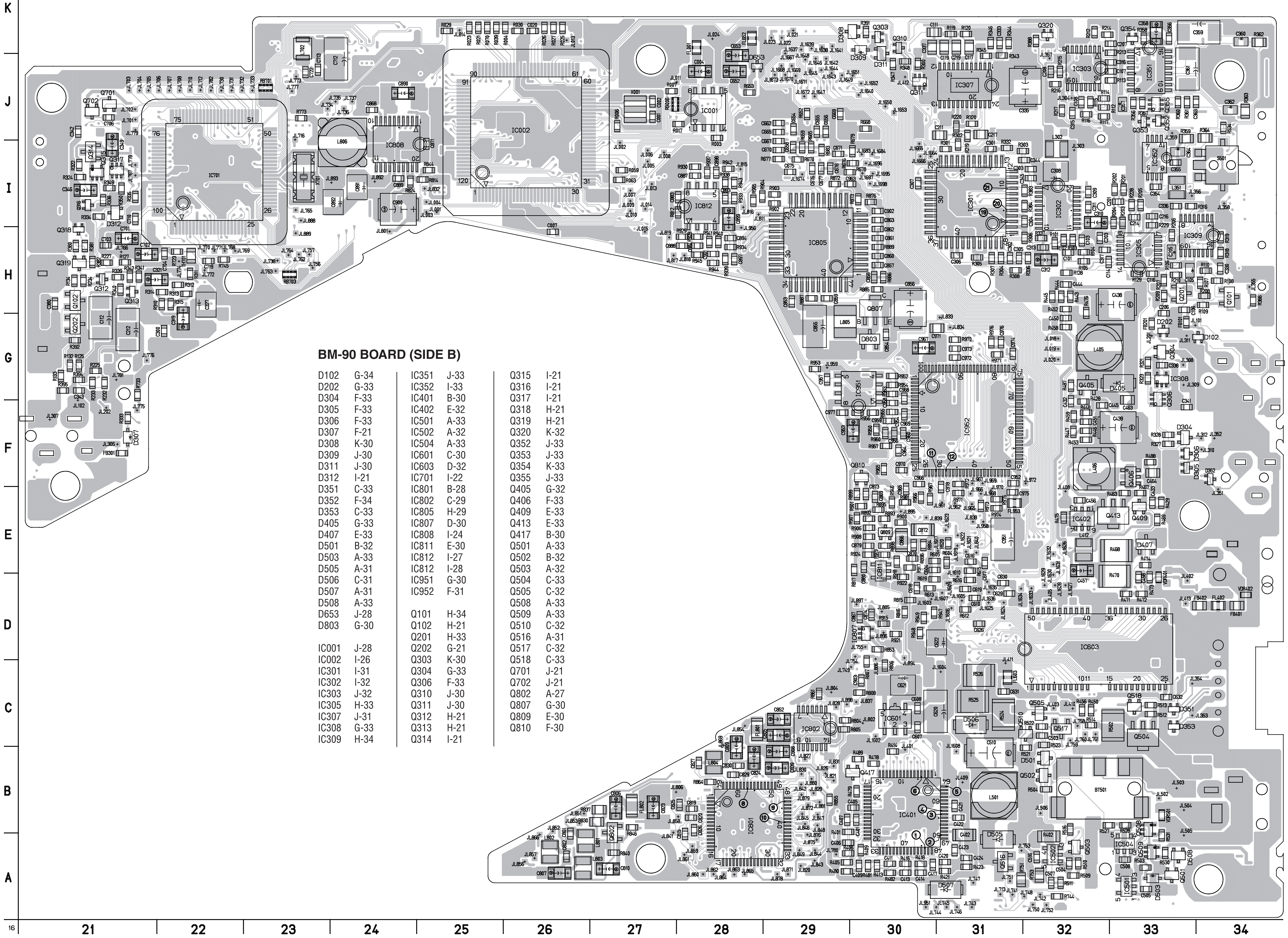
Transistor

Diode

C
1
2
3
3
B
E
5
4
3
2
1
2
1

There are few cases that the part printed on this diagram isn't mounted in this model.

MB-90 BOARD(SIDE B)


K
J
I
H
G
F
E
D
C
B
A
21
22
23
24
25
26
27
28
29
30
31
32
33
34
16
IC001
IC002
IC301
IC302
IC303
IC305
IC307
IC308
IC309
IC351
IC352
IC401
IC402
IC501
IC502
IC504
IC601
IC603
IC701
IC801
IC802
IC805
IC808
IC812
IC951
IC952
L302
L405
L406
L501
L805
L806
BT501
X001

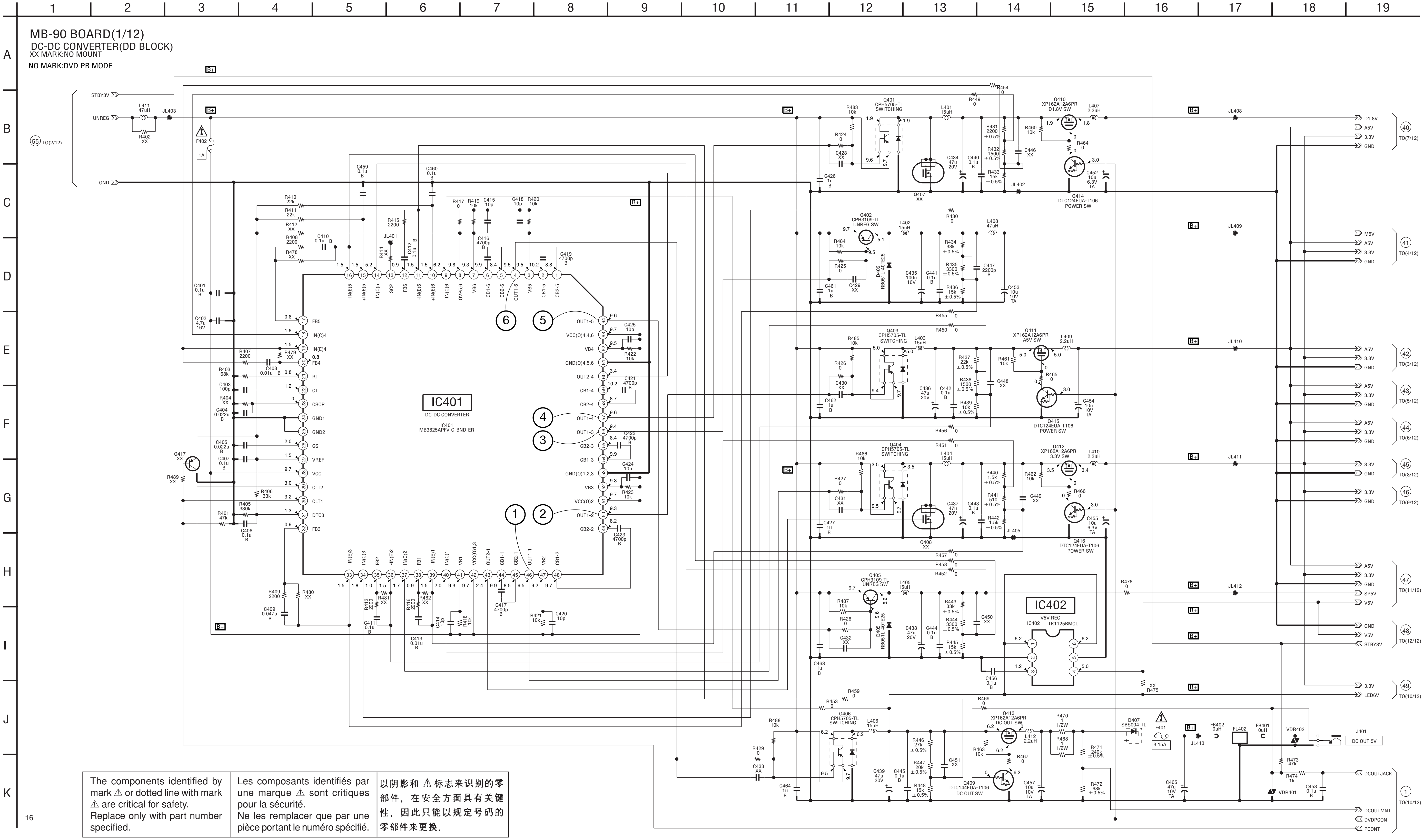
BM-90 BOARD (SIDE B)

D102	G-34
D202	G-33
D304	F-33
D305	F-33
D306	F-33
D307	F-21
D308	K-30
D309	J-30
D311	J-30
D312	I-21
D351	C-33
D352	F-34
D353	C-33
D405	G-33
D407	E-33
D501	B-32
D503	A-33
D505	A-31
D506	C-31
D507	A-31
D508	A-33
D653	J-28
D803	G-30
IC001	J-28
IC002	I-26
IC301	I-31
IC302	I-32
IC303	J-32
IC305	H-33
IC307	J-31
IC308	G-33
IC309	H-34
IC351	J-33
IC352	I-33
IC401	B-30
IC402	E-32
IC501	A-33
IC502	A-32
IC504	A-33
IC601	C-30
IC603	D-32
IC701	I-22
IC801	B-28
IC802	C-29
IC805	H-29
IC807	D-30
IC808	I-24
IC811	E-30
IC812	I-27
IC812	I-28
IC951	G-30
IC952	F-31
Q101	H-34
Q102	H-21
Q201	H-33
Q202	G-21
Q303	K-30
Q304	G-33
Q306	F-33
Q310	J-30
Q311	J-30
Q312	H-21
Q313	H-21
Q314	I-21
Q315	I-21
Q316	I-21
Q317	I-21
Q318	H-21
Q319	H-21
Q320	K-32
Q352	J-33
Q353	J-33
Q354	K-33
Q355	J-33
Q405	G-32
Q406	F-33
Q409	E-33
Q413	E-33
Q417	B-30
Q501	A-33
Q502	B-32
Q503	A-32
Q504	C-33
Q505	C-32
Q508	A-33
Q509	A-33
Q510	C-32
Q516	A-31
Q517	C-32
Q518	C-33
Q701	J-21
Q702	J-21
Q802	A-27
Q807	G-30
Q809	E-30
Q810	F-30

RF, VIDEO, AUDIO, SERVO, SYSTEM CONTROL
MB-90

For Schematic Diagram

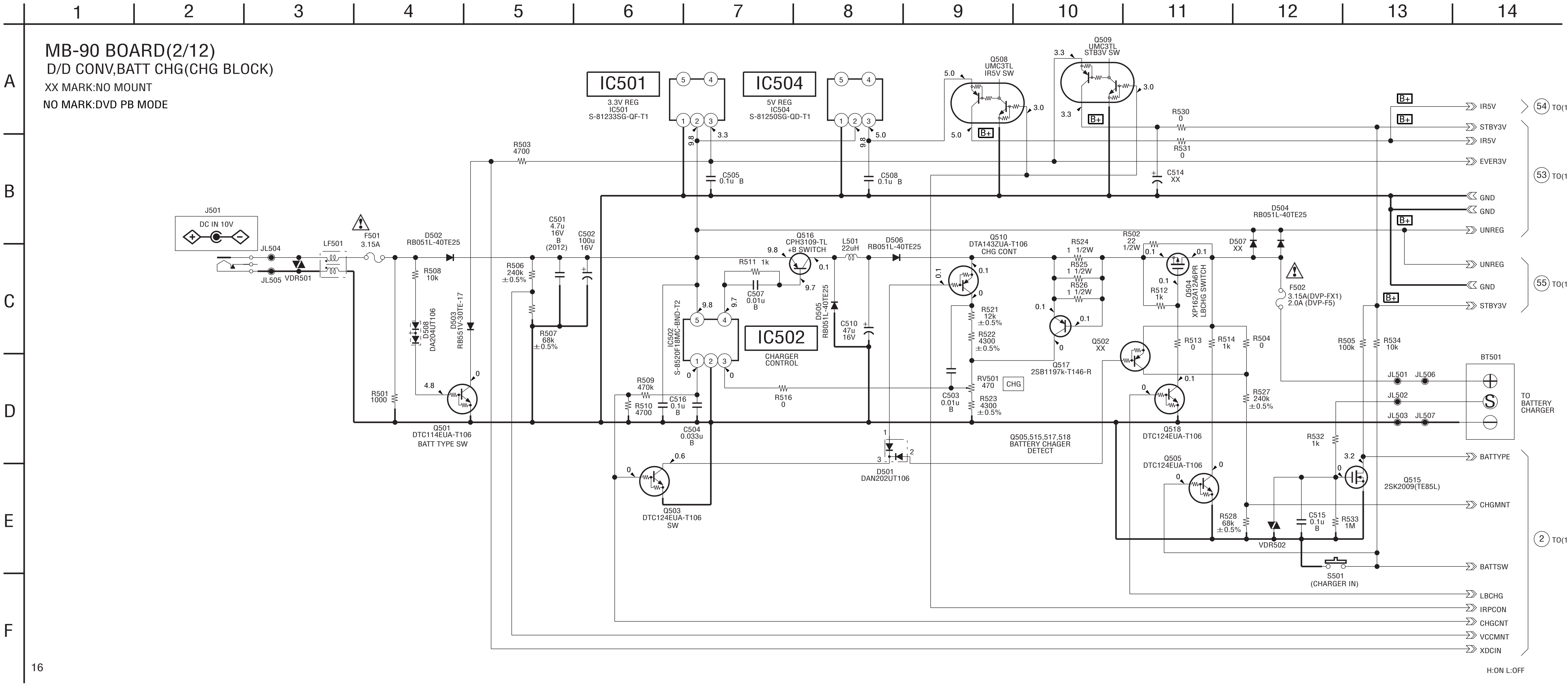
- Refer to page 4-7 for printed wiring board.
- Refer to page 4-35 for waveforms.


MB-90 BOARD(1/12)
DC-DC CONVERTER(DD BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
STBY3V
UNREG
GND
(55) TO(2/12)
IC401
DC-DC CONVERTER
IC401 MB3825APFV-G-BND-ER
IC402
V5V REG
IC402 TK1125BMCL
Q401 CPH5705-TL SWITCHING
Q402 CPH3109-TL UNREG SW
Q403 CPH5705-TL SWITCHING
Q404 CPH5705-TL SWITCHING
Q405 CPH3109-TL UNREG SW
Q406 CPH5705-TL SWITCHING
Q409 DTC144EUA-T106 DC OUT SW
Q410 XP162A12A6PR D1.8V SW
Q411 XP162A12A6PR A5V SW
Q412 XP162A12A6PR 3.3V SW
Q413 XP162A12A6PR DC OUT SW
Q414 DTC124EUA-T106 POWER SW
Q415 DTC124EUA-T106 POWER SW
Q416 DTC124EUA-T106 POWER SW
D407 SBS004-TL
F401 3.15A
F402 1A
J401 DC OUT 5V
D1.8V
A5V
3.3V
M5V
SP5V
V5V
STBY3V
LED6V
DCOUTJACK
DCOUTMNT
DVDPCON
PCONT
(40) TO(7/12)
(41) TO(4/12)
(42) TO(3/12)
(43) TO(5/12)
(44) TO(6/12)
(45) TO(8/12)
(46) TO(9/12)
(47) TO(11/12)
(48) TO(12/12)
(49) TO(10/12)
(1) TO(10/12)
16

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

For Schematic Diagram

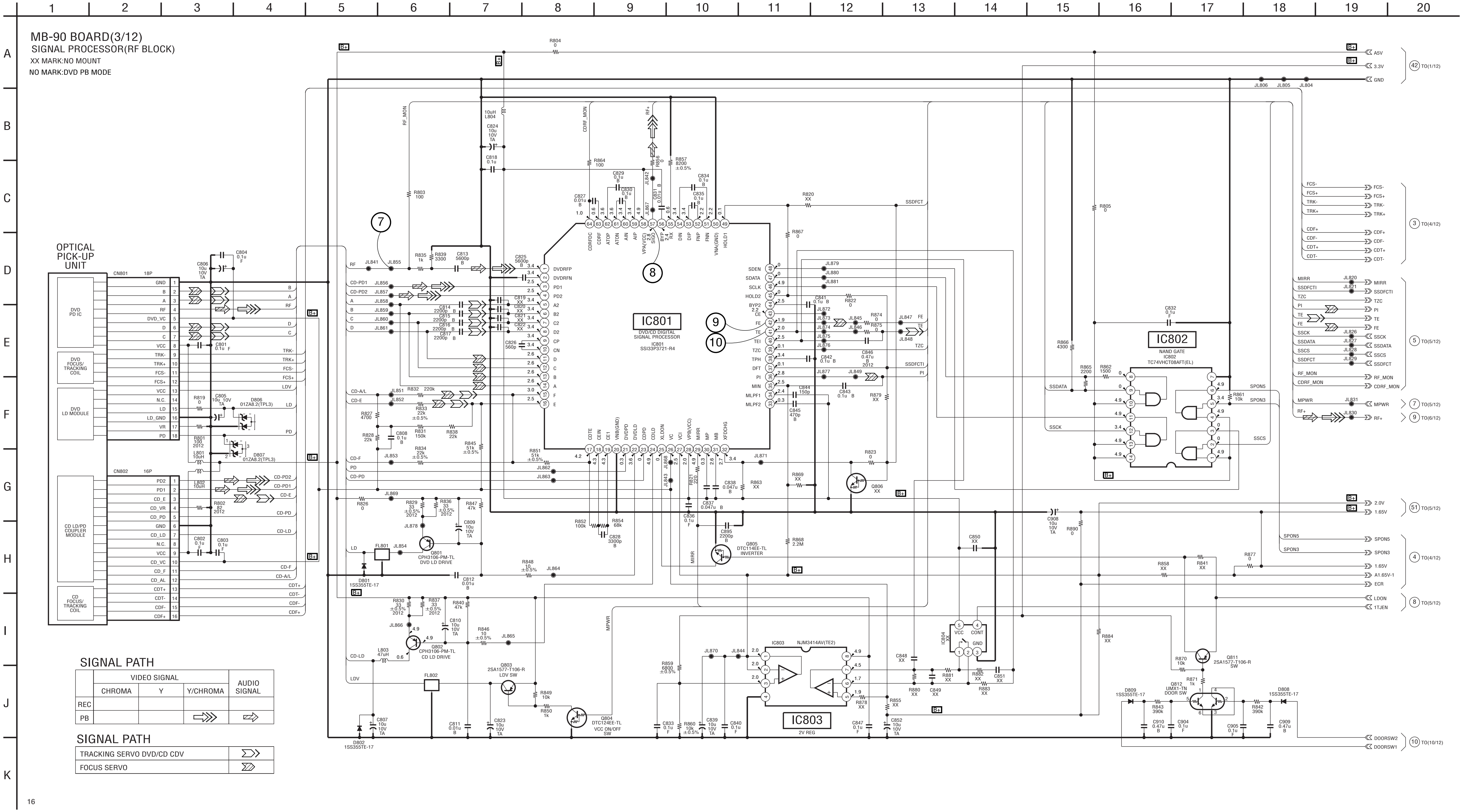
- Refer to page 4-7 for printed wiring board.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
MB-90 BOARD(2/12)
D/D CONV,BATT CHG(CHG BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
IC501
3.3V REG
IC501
S-81233SG-QF-T1
IC504
5V REG
IC504
S-81250SG-QD-T1
IC502
CHARGER
CONTROL
IC502
S-8520F18MC-BND-T2
Q508
UMC3TL
IR5V SW
Q509
UMC3TL
STB3V SW
R503
4700
J501
DC IN 10V
JL504
JL505
VDR501
LF501
F501
3.15A
D502
RB051L-40TE25
R508
10k
D508
DA204UT106
D503
RB551V-30TE-17
R501
1000
Q501
DTC114EUA-T106
BATT TYPE SW
R506
240k
±0.5%
R507
68k
±0.5%
C501
4.7u
16V
B
(2012)
C502
100u
16V
C505
0.1u B
C508
0.1u B
Q516
CPH3109-TL
+B SWITCH
R511 1k
C507
0.01u
B
L501
22uH
D506
RB051L-40TE25
D505
RB051L-40TE25
C510
47u
16V
R509
470k
R510
4700
C516
0.1u
B
C504
0.033u
B
R516
0
Q503
DTC124EUA-T106
SW
D501
DAN202UT106
Q510
DTA143ZUA-T106
CHG CONT
R521
12k
±0.5%
R522
4300
±0.5%
RV501
470
CHG
C503
0.01u
B
R523
4300
±0.5%
Q505,515,517,518
BATTERY CHAGER
DETECT
R524
1 1/2W
R525
1 1/2W
R526
1 1/2W
Q517
2SB1197k-T146-R
R502
22
1/2W
R512
1k
Q504
XP162A12A6PR
LBCHG SWITCH
Q502
XX
R513
0
R514
1k
R504
0
Q518
DTC124EUA-T106
Q505
DTC124EUA-T106
R527
240k
±0.5%
R528
68k
±0.5%
VDR502
C515
0.1u
B
R533
1M
S501
(CHARGER IN)
R530
0
R531
0
C514
XX
D504
RB051L-40TE25
D507
XX
F502
3.15A(DVP-FX1)
2.0A (DVP-F5)
R505
100k
R534
10k
R532
1k
Q515
2SK2009(TE85L)
BT501
JL501
JL506
JL502
JL503
JL507
TO
BATTERY
CHARGER
B+
IR5V
STBY3V
IR5V
EVER3V
GND
GND
UNREG
UNREG
GND
STBY3V
BATTYPE
CHGMNT
BATTSW
LBCHG
IRPCON
CHGCNT
VCCMNT
XDCIN
54 TO(11/12)
53 TO(10/12)
55 TO(1/12)
2 TO(10/12)
16
H:ON L:OFF

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

For Schematic Diagram

- Refer to page 4-7 for printed wiring board.
- Refer to page 4-35 for waveforms.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
A B C D E F G H I J K
MB-90 BOARD(3/12)
SIGNAL PROCESSOR(RF BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
OPTICAL PICK-UP UNIT
DVD PD IC
DVD FOCUS/ TRACKING COIL
DVD LD MODULE
CD LD/PD COUPLER MODULE
CD FOCUS/ TRACKING COIL
CN801 18P
CN802 16P
IC801
DVD/CD DIGITAL SIGNAL PROCESSOR
IC801 SSI33P3721-R4
IC802
NAND GATE
IC802 TC74VHCT08AFT(EL)
IC803
NJM3414AV(TE2)
IC803 2V REG
Q801 CPH3106-PM-TL DVD LD DRIVE
Q802 CPH3106-PM-TL CD LD DRIVE
Q803 2SA1577-T106-R LDV SW
Q804 DTC124EE-TL VCC ON/OFF SW
Q805 DTC114EE-TL INVERTER
Q806 XX
Q811 2SA1577-T106-R SW
Q812 UMX1-TN DOOR SW
D801 1SS355TE-17
D802 1SS355TE-17
D806 01ZA8.2(TPL3)
D807 01ZA8.2(TPL3)
D808 1SS355TE-17
D809 1SS355TE-17
A5V
3.3V
GND
(42) TO(1/12)
FCS- FCS+ TRK- TRK+
(3) TO(4/12)
CDF+ CDF- CDT+ CDT-
MIRR SSDFCTI TZC PI TE FE SSCK SSDATA SSCS SSDFCT RF_MON CDRF_MON
(5) TO(5/12)
MPWR (7) TO(5/12)
RF+ (9) TO(6/12)
2.0V 1.65V (51) TO(5/12)
SPON5 SPON3 1.65V A1.65V-1 ECR
(4) TO(4/12)
LDON 1TJEN (8) TO(5/12)
DOORSW2 DOORSW1 (10) TO(10/12)
7 8 9 10
B+
16

SIGNAL PATH

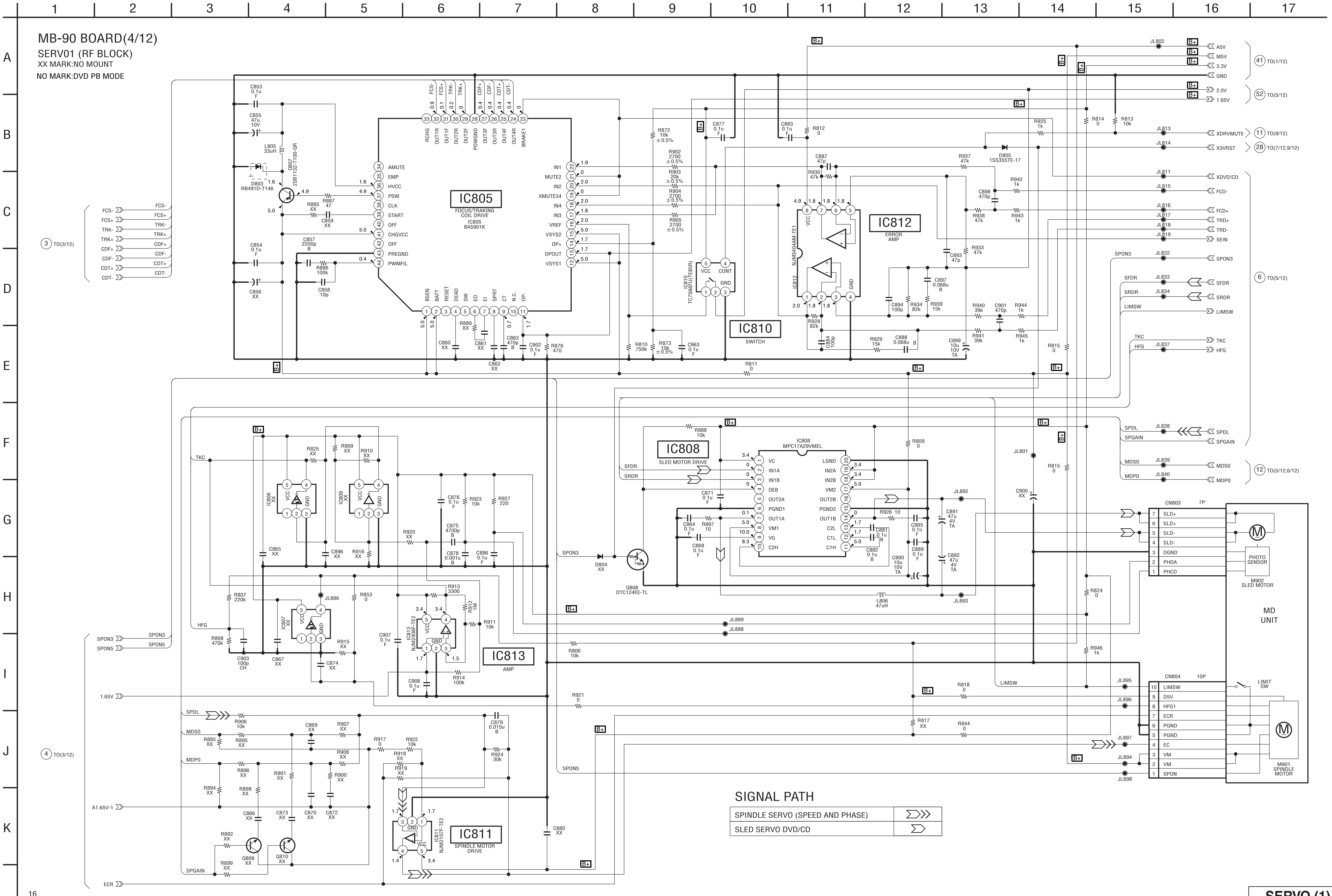
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB			⇒	⇨

SIGNAL PATH

TRACKING SERVO DVD/CD CDV	⇒
FOCUS SERVO	⇨

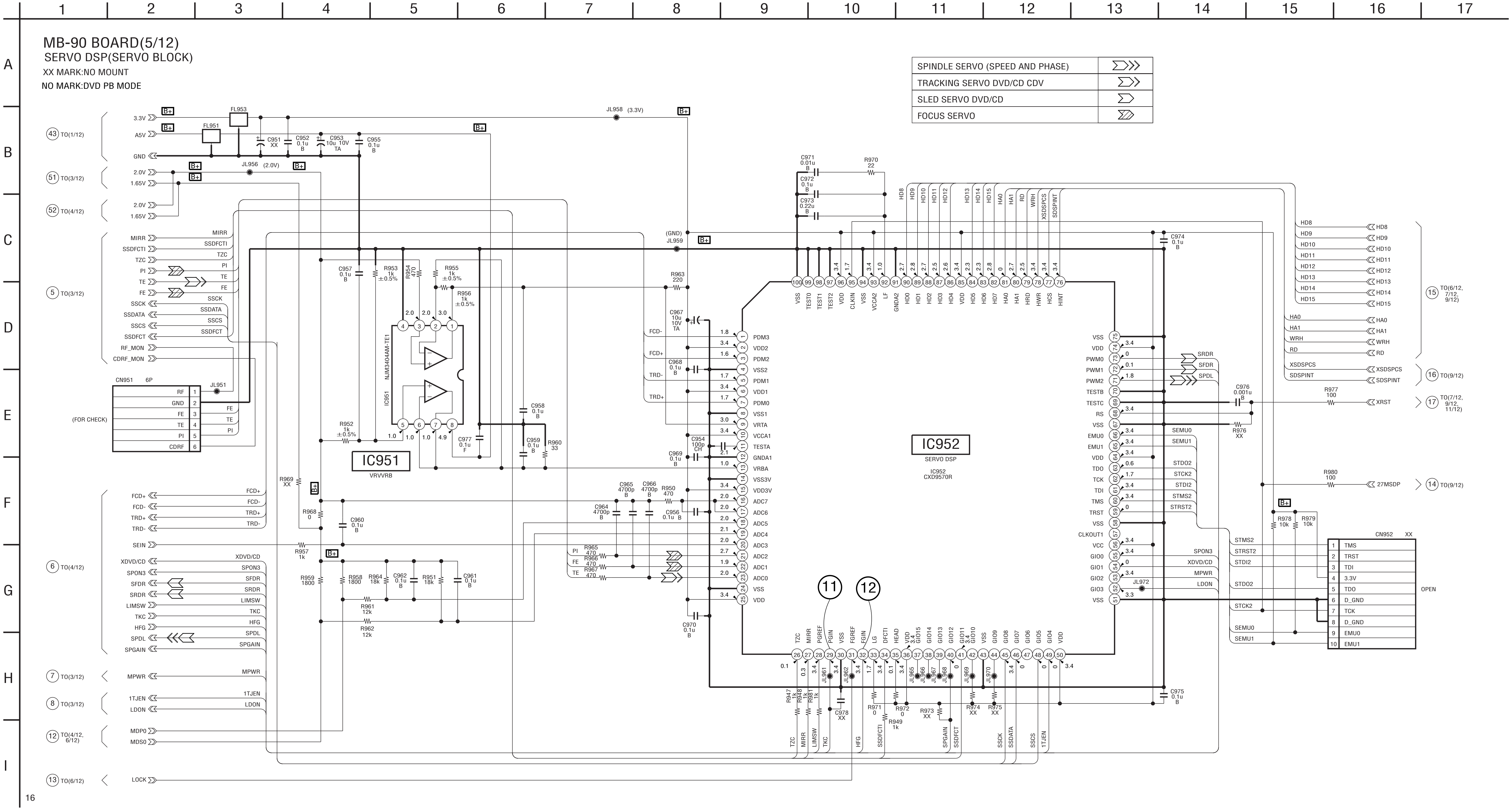
For Schematic Diagram

- Refer to page 4-7 for printed wiring board.


MB-90 BOARD(4/12)
SERV01 (RF BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
IC805
FOCUS/TRAKING COIL DRIVE
IC805 BA5901K
IC812
ERROR AMP
NJM3404AM-TE1
IC810
SWITCH
TC7S66FU(TE85R)
IC808
SLED MOTOR DRIVE
IC808 MPC17A29VMEL
IC813
AMP
NJM2406F-TE2
IC811
SPINDLE MOTOR DRIVE
NJM2107F-TE2
Q807 2SB1132-T100-QR
D803 RB491D-T146
D805 1SS355TE-17
Q808 DTC124EE-TL
D804
Q809
Q810
L805 33uH
L806 47uH
CN803 7P
SLD+
SLD+
SLD-
SLD-
DGND
PHDA
PHCO
PHOTO SENSOR
M902 SLED MOTOR
CN804 10P
LIMSW
D5V
HFG1
ECR
PGND
PGND
EC
VM
VM
SPON
LIMIT SW
M901 SPINDLE MOTOR
MD UNIT
A5V
M5V
3.3V
GND
2.0V
1.65V
TO(1/12)
TO(5/12)
XDRVMUTE
X3VRST
TO(9/12)
TO(7/12,9/12)
XDVD/CD
FCD-
FCD+
TRD+
TRD-
SEIN
SPON3
SFDR
SRDR
LIMSW
TKC
HFG
SPDL
SPGAIN
MDS0
MDP0
TO(5/12,6/12)
FCS-
FCS+
TRK-
TRK+
CDF+
CDF-
CDT+
CDT-
TO(3/12)
SPON3
SPON5
1.65V
A1.65V-1
ECR
SIGNAL PATH
SPINDLE SERVO (SPEED AND PHASE)
SLED SERVO DVD/CD

SERVO (1)
MB-90 (4/12)

For Schematic Diagram
- Refer to page 4-7 for printed wiring board.
- Refer to page 4-35 for waveforms.


MB-90 BOARD(5/12)
SERVO DSP(SERVO BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
SPINDLE SERVO (SPEED AND PHASE)
TRACKING SERVO DVD/CD CDV
SLED SERVO DVD/CD
FOCUS SERVO
IC951
NJM3404AM-TE1
VRVVRB
IC952
SERVO DSP
IC952
CXD9570R
CN951 6P
(FOR CHECK)
CN952 XX
OPEN
FL951
FL953
JL958 (3.3V)
JL956 (2.0V)
JL959 (GND)
(43) TO(1/12)
(51) TO(3/12)
(52) TO(4/12)
(5) TO(3/12)
(6) TO(4/12)
(7) TO(3/12)
(8) TO(3/12)
(12) TO(4/12, 6/12)
(13) TO(6/12)
(15) TO(6/12, 7/12, 9/12)
(16) TO(9/12)
(17) TO(7/12, 9/12, 11/12)
(14) TO(9/12)
(11)
(12)
3.3V
A5V
GND
2.0V
1.65V
MIRR
SSDFCTI
TZC
PI
TE
FE
SSCK
SSDATA
SSCS
SSDFCT
RF_MON
CDRF_MON
FCD+
FCD-
TRD+
TRD-
SEIN
XDVD/CD
SPON3
SFDR
SRDR
LIMSW
TKC
HFG
SPDL
SPGAIN
MPWR
1TJEN
LDON
MDP0
MDS0
LOCK
HD8
HD9
HD10
HD11
HD12
HD13
HD14
HD15
HA0
HA1
WRH
RD
XSDSPCS
SDSPINT
XRST
27MSDP
TMS
TRST
TDI
3.3V
TDO
D_GND
TCK
EMU0
EMU1

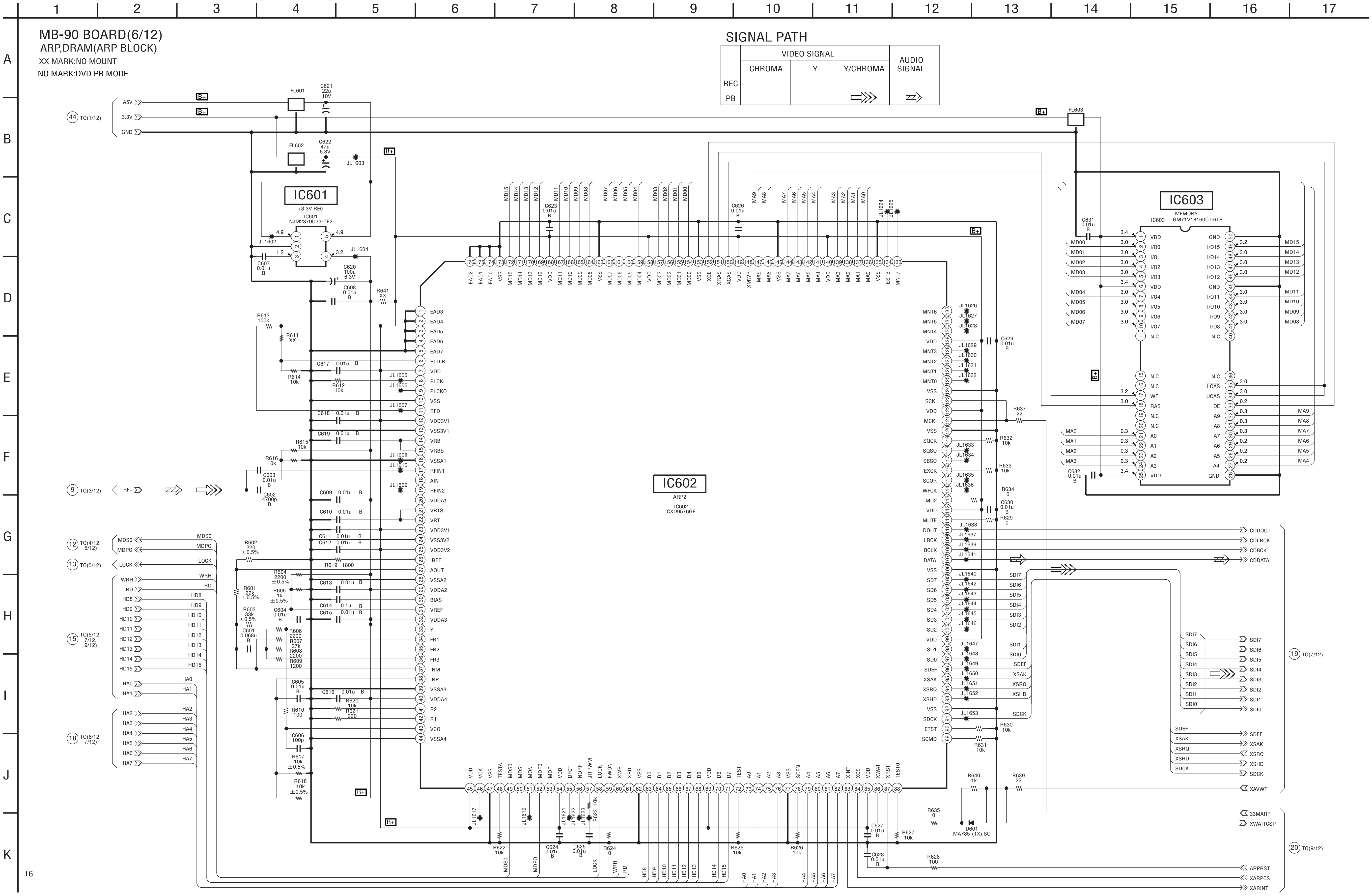
For Schematic Diagram

- Refer to page 4-7 for printed wiring board.

MB-90 BOARD(6/12)
ARP,DRAM(ARP BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE

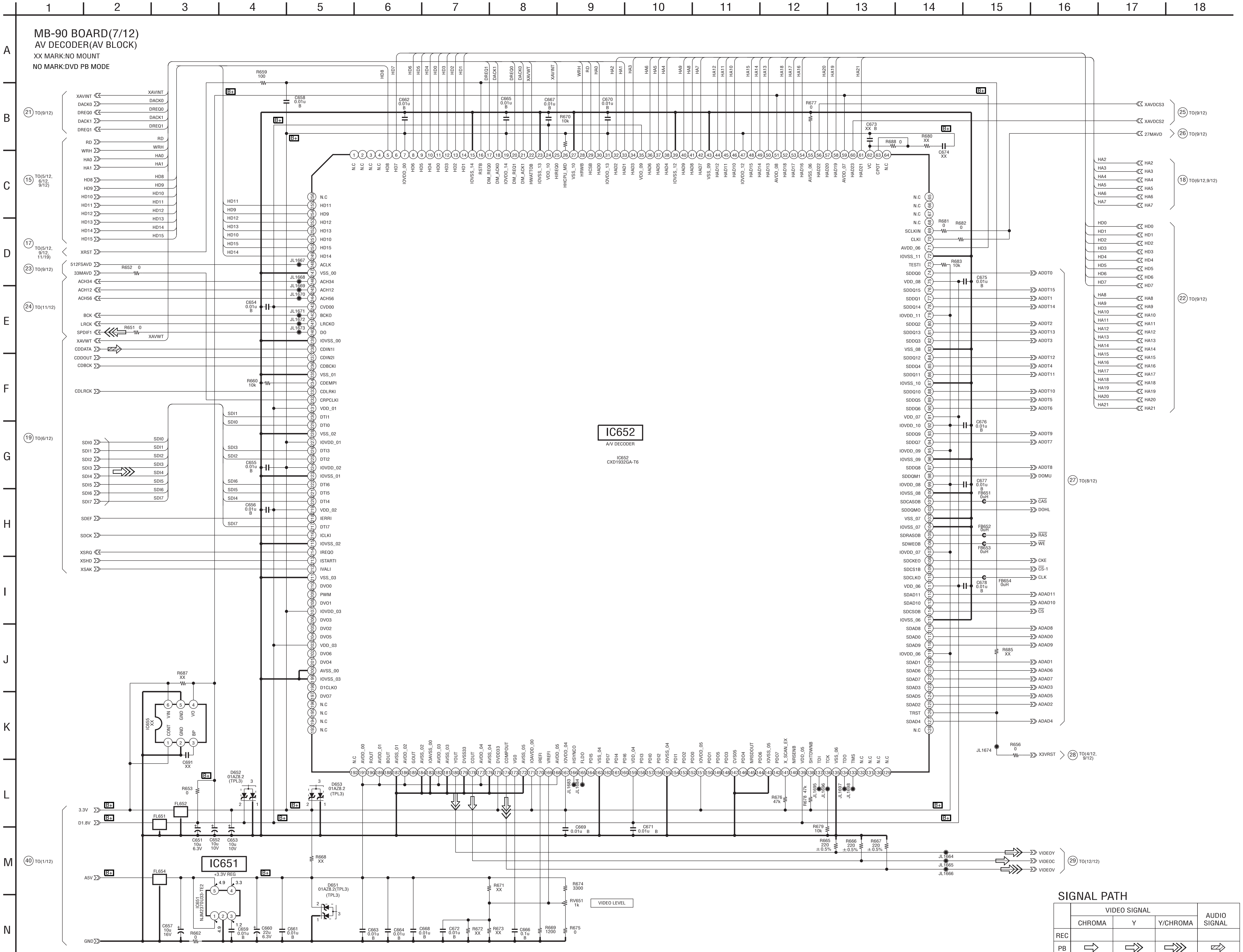
SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB			⇨	⇨


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
A
B
C
D
E
F
G
H
I
J
K
44 TO(1/12)
A5V
3.3V
GND
B+
FL601
C621 22u 10V
FL602
C622 47u 6.3V
JL1603
IC601
+3.3V REG
IC601 NJM2370U33-TE2
JL1602
JL1604
4.9
1.2
3.2
C607 0.01u B
C620 100u 6.3V
C608 0.01u B
R641 XX
R613 100k
R611 XX
R614 10k
R612 10k
C617 0.01u B
C618 0.01u B
C619 0.01u B
R615 10k
R616 10k
C603 0.01u B
C602 4700p B
9 TO(3/12)
RF+
C609 0.01u B
C610 0.01u B
C611 0.01u B
C612 0.01u B
12 TO(4/12, 5/12)
MDS0
MDP0
13 TO(5/12)
LOCK
R602 220 ±0.5%
R619 1800
R604 2200 ±0.5%
R601 22k ±0.5%
R605 1k ±0.5%
R603 33k ±0.5%
C604 0.01u B
C613 0.01u B
C614 0.1u B
C615 0.01u B
C601 0.068u B
R606 2200
R607 27k
R608 2200
R609 1200
15 TO(5/12, 7/12, 9/12)
WRH
RD
HD8
HD9
HD10
HD11
HD12
HD13
HD14
HD15
HA0
HA1
18 TO(6/12, 7/12)
HA2
HA3
HA4
HA5
HA6
HA7
C605 0.01u B
C616 0.01u B
R620 10k
R621 220
R610 100
C606 100p
R617 10k ±0.5%
R618 10k ±0.5%
IC602
ARP2
IC602 CXD9576GF
EAD3
EAD4
EAD5
EAD6
EAD7
PLDIR
VDD
PLCKI
PLCKO
VSS
RFD
VDD3V1
VSS3V1
VRB
VRBS
VSSA1
RFIN1
AIN
RFIN2
VDDA1
VRTS
VRT
VDD3V1
VSS3V2
VDD3V2
IREF
AOUT
VSSA2
VDDA2
BIAS
VREF
VDDA3
Y
FR1
FR2
FR3
INM
INP
VSSA3
VDDA4
R2
R1
VCO
VSSA4
JL1605
JL1606
JL1607
JL1608
JL1610
JL1609
EAD2
EAD1
EAD0
MD15
MD14
MD13
MD12
MD11
MD10
MD09
MD08
MD07
MD06
MD05
MD04
MD03
MD02
MD01
MD00
XOE
XRAS
XCAS
XMWR
MA9
MA8
MA7
MA6
MA5
MA4
MA3
MA2
MA1
MA0
ESTB
MNT7
C623 0.01u B
C626 0.01u B
JL1624
JL1625
MNT6
MNT5
MNT4
MNT3
MNT2
MNT1
MNT0
SCKI
MCKI
SQCK
SQSO
SBSO
EXCK
SCOR
WFCK
MD2
MUTE
DOUT
LRCK
BCLK
DATA
SD7
SD6
SD5
SD4
SD3
SD2
SD1
SD0
SDEF
XSAK
XSRQ
XSHD
SDCK
ETST
SCMD
JL1626
JL1627
JL1628
JL1629
JL1630
JL1631
JL1632
JL1633
JL1634
JL1635
JL1636
JL1637
JL1638
JL1639
JL1640
JL1641
JL1642
JL1643
JL1644
JL1645
JL1646
JL1647
JL1648
JL1649
JL1650
JL1651
JL1652
JL1653
C629 0.01u B
R637 22
R632 10k
R633 10k
R634 0
C630 0.01u B
R629 0
R630 10k
R631 10k
VCK
TESTA
MDS1
MON
MDP1
DFCT
NORF
JITPWM
FWON
XWR
XRD
D0
D1
D2
D3
D4
D5
D6
D7
TEST
A0
A1
A2
A3
SCEN
A4
A5
A6
A7
XINT
XCS
XWAT
XRST
TEST0
JL1617
JL1619
JL1621
JL1622
JL1623
R623 10k
R622 10k
C624 0.01u B
C625 0.01u B
R624 0
R625 10k
R626 10k
R640 1k
R639 22
R635 0
D601 MA785-(TX),SO
C627 0.01u B
R627 10k
C628 0.01u B
R628 100
FL603
IC603
MEMORY
IC603 GM71V18160CT-6TR
C631 0.01u B
VDD
I/O0
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
I/O7
N.C
WE
RAS
A0
A1
A2
A3
GND
I/O15
I/O14
I/O13
I/O12
I/O11
I/O10
I/O9
I/O8
LCAS
UCAS
OE
A9
A8
A7
A6
A5
A4
C632 0.01u B
3.4
3.0
3.2
0.3
0.2
CDDOUT
CDLRCK
CDBCK
CDDATA
SDI7
SDI6
SDI5
SDI4
SDI3
SDI2
SDI1
SDI0
19 TO(7/12)
SDEF
XSAK
XSRQ
XSHD
SDCK
XAVWT
33MARP
XWAITCSP
20 TO(9/12)
ARPRST
XARPCS
XARINT
16

ARP, DRAM
MB-90 (6/12)

For Schematic Diagram
- Refer to page 4-7 for printed wiring board.

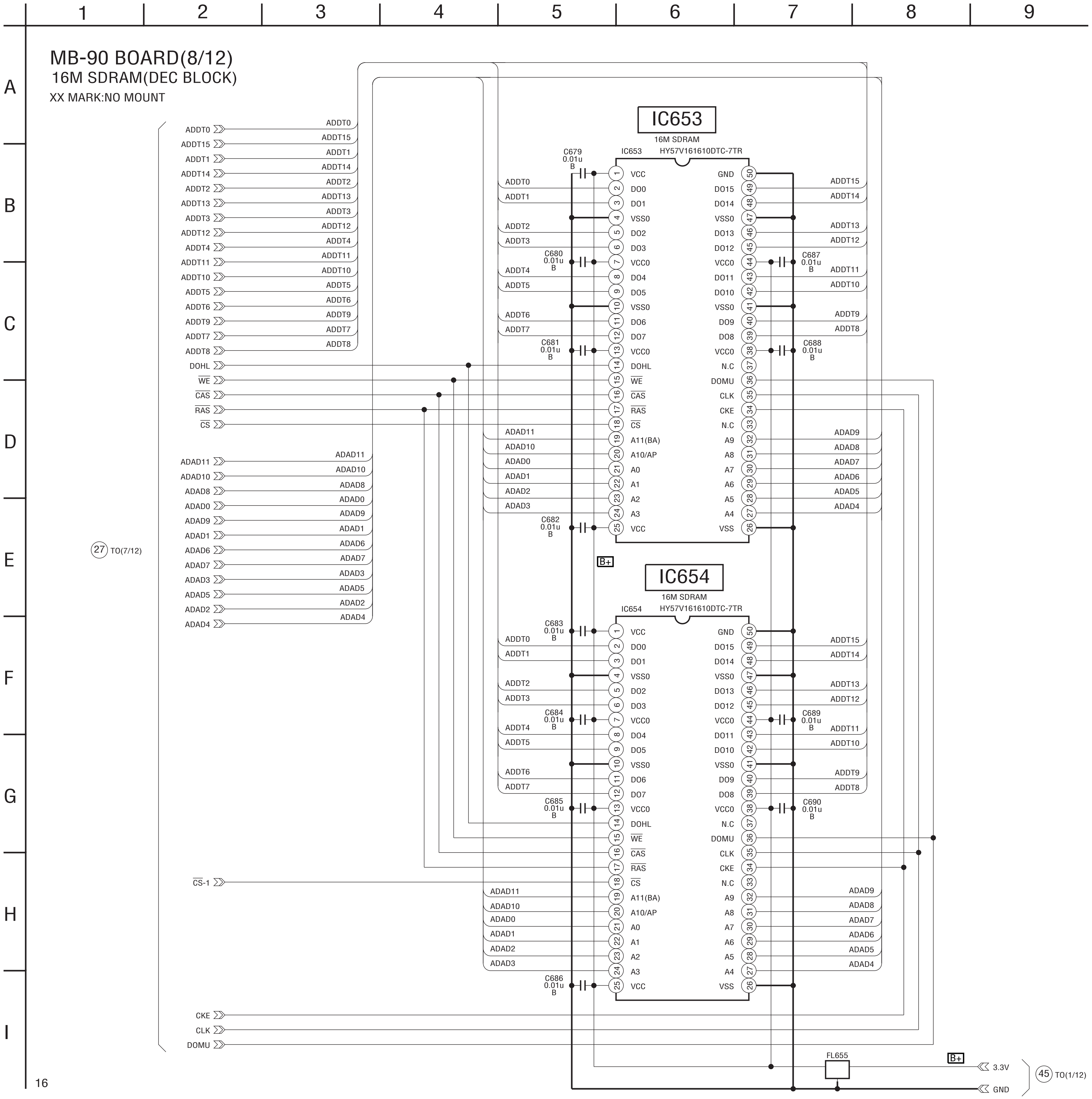

MB-90 BOARD(7/12)
AV DECODER(AV BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
IC652
A/V DECODER
IC652
CXD1932GA-T6
IC651
+3.3V REG
IC651
NJM2870F03-TE2
IC655
XX
D652
01AZ8.2
(TPL3)
D653
01AZ8.2
(TPL3)
D651
01AZ8.2(TPL3)
(TPL3)
VIDEO LEVEL
RV651
1k
21 TO(9/12)
15 TO(5/12, 6/12, 9/12)
17 TO(5/12, 9/12, 11/19)
23 TO(9/12)
24 TO(11/12)
19 TO(6/12)
40 TO(1/12)
25 TO(9/12)
26 TO(9/12)
18 TO(6/12,9/12)
22 TO(9/12)
27 TO(8/12)
28 TO(4/12, 9/12)
29 TO(12/12)
XAVDCS3
XAVDCS2
27MAVD
VIDEOY
VIDEOC
VIDEOV
X3VRST
3.3V
D1.8V
A5V
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
A
B
C
D
E
F
G
H
I
J
K
L
M
N

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB	⇨	⇨	⇨	⇨

AV DECODER
MB-90 (7/12)

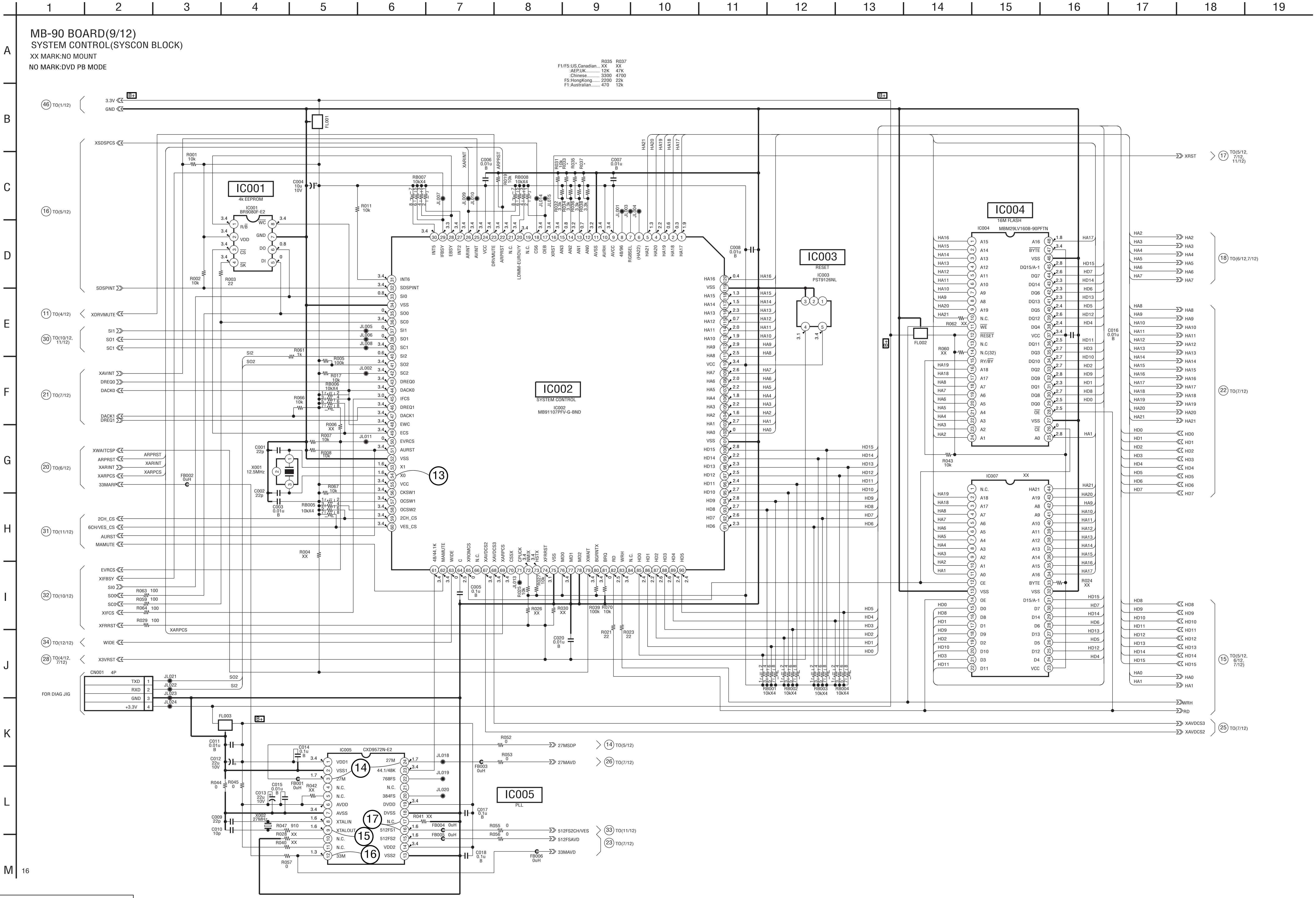
For Schematic Diagram
- Refer to page 4-7 for printed wiring board.


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
H
I
MB-90 BOARD(8/12)
16M SDRAM(DEC BLOCK)
XX MARK:NO MOUNT
IC653
16M SDRAM
IC653 HY57V161610DTC-7TR
IC654
16M SDRAM
IC654 HY57V161610DTC-7TR
VCC
DO0
DO1
VSS0
DO2
DO3
VCC0
DO4
DO5
DO6
DO7
DOHL
WE
CAS
RAS
CS
A11(BA)
A10/AP
A0
A1
A2
A3
GND
DO15
DO14
DO13
DO12
DO11
DO10
DO9
DO8
N.C
DOMU
CLK
CKE
A9
A8
A7
A6
A5
A4
VSS
C679 0.01u B
C680 0.01u B
C681 0.01u B
C682 0.01u B
C683 0.01u B
C684 0.01u B
C685 0.01u B
C686 0.01u B
C687 0.01u B
C688 0.01u B
C689 0.01u B
C690 0.01u B
ADDT0
ADDT15
ADDT1
ADDT14
ADDT2
ADDT13
ADDT3
ADDT12
ADDT4
ADDT11
ADDT10
ADDT5
ADDT6
ADDT9
ADDT7
ADDT8
DOHL
WE
CAS
RAS
CS
ADAD11
ADAD10
ADAD8
ADAD0
ADAD9
ADAD1
ADAD6
ADAD7
ADAD3
ADAD5
ADAD2
ADAD4
27 TO(7/12)
B+
CS-1
CKE
CLK
DOMU
FL655
3.3V
GND
45 TO(1/12)
16

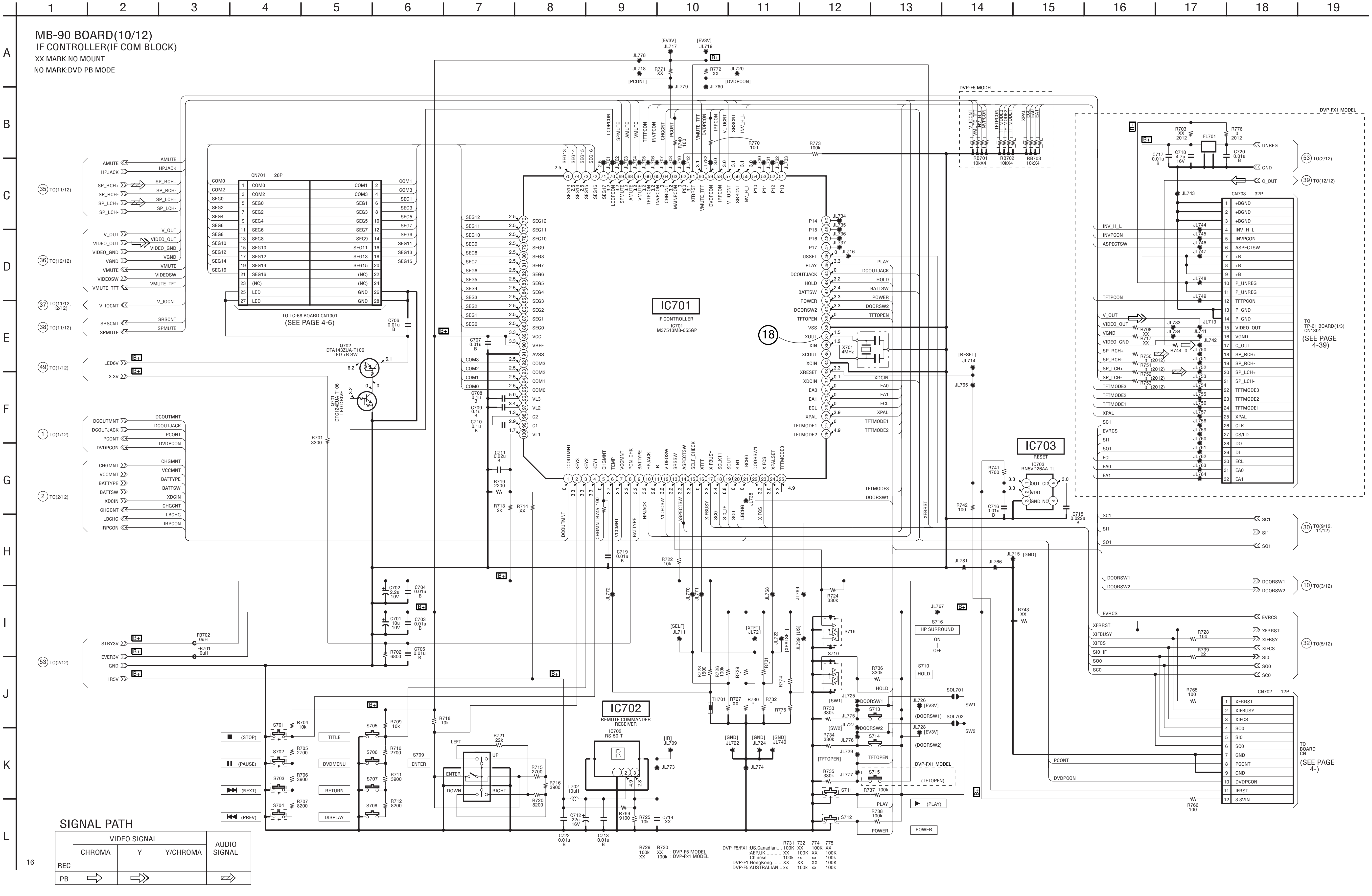
16M SDRAM
MB-90 (8/12)

For Schematic Diagram

- Refer to page 4-7 for printed wiring board.
- Refer to page 4-35 for waveforms.


MB-90 BOARD(9/12)
SYSTEM CONTROL(SYSCON BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
R035 R037
F1/F5:US,Canadian... XX XX
:AEP,UK........ 12K 47K
:Chinese........ 3300 4700
F5:HongKong...... 2200 22k
F1:Australian...... 470 12k
IC001
4k EEPROM
IC001 BR9080F-E2
IC002
SYSTEM CONTROL
IC002 MB91107PFV-G-BND
IC003
RESET
IC003 PST9126NL
IC004
16M FLASH
IC004 MBM29LV160B-90PFTN
IC007 XX
IC005
PLL
IC005 CXD9572N-E2
X001 12.5MHz
X002 27MHz
CN001 4P
FOR DIAG JIG
TXD
RXD
GND
+3.3V
3.3V
GND
XSDSPCS
SDSPINT
XDRVMUTE
SI1
SO1
SC1
XAVINT
DREQ0
DACK0
DACK1
DREQ1
XWAITCSP
ARPRST
XARINT
XARPCS
33MARP
2CH_CS
6CH/VES_CS
AURST
MAMUTE
EVRCS
XIFBSY
SI0
SO0
SC0
XIFCS
XFRRST
WIDE
X3VRST
XRST
27MSDP
27MAVD
512FS2CH/VES
512FSAVD
33MAVD
XAVDCS3
XAVDCS2
WRH
RD
TO(1/12)
TO(5/12)
TO(4/12)
TO(10/12, 11/12)
TO(7/12)
TO(6/12)
TO(11/12)
TO(10/12)
TO(12/12)
TO(4/12, 7/12)
TO(5/12, 7/12, 11/12)
TO(6/12,7/12)
TO(5/12, 6/12, 7/12)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H I J K L M

For Schematic Diagram
- Refer to page 4-7 for printed wiring board.
- Refer to page 4-35 for waveforms.

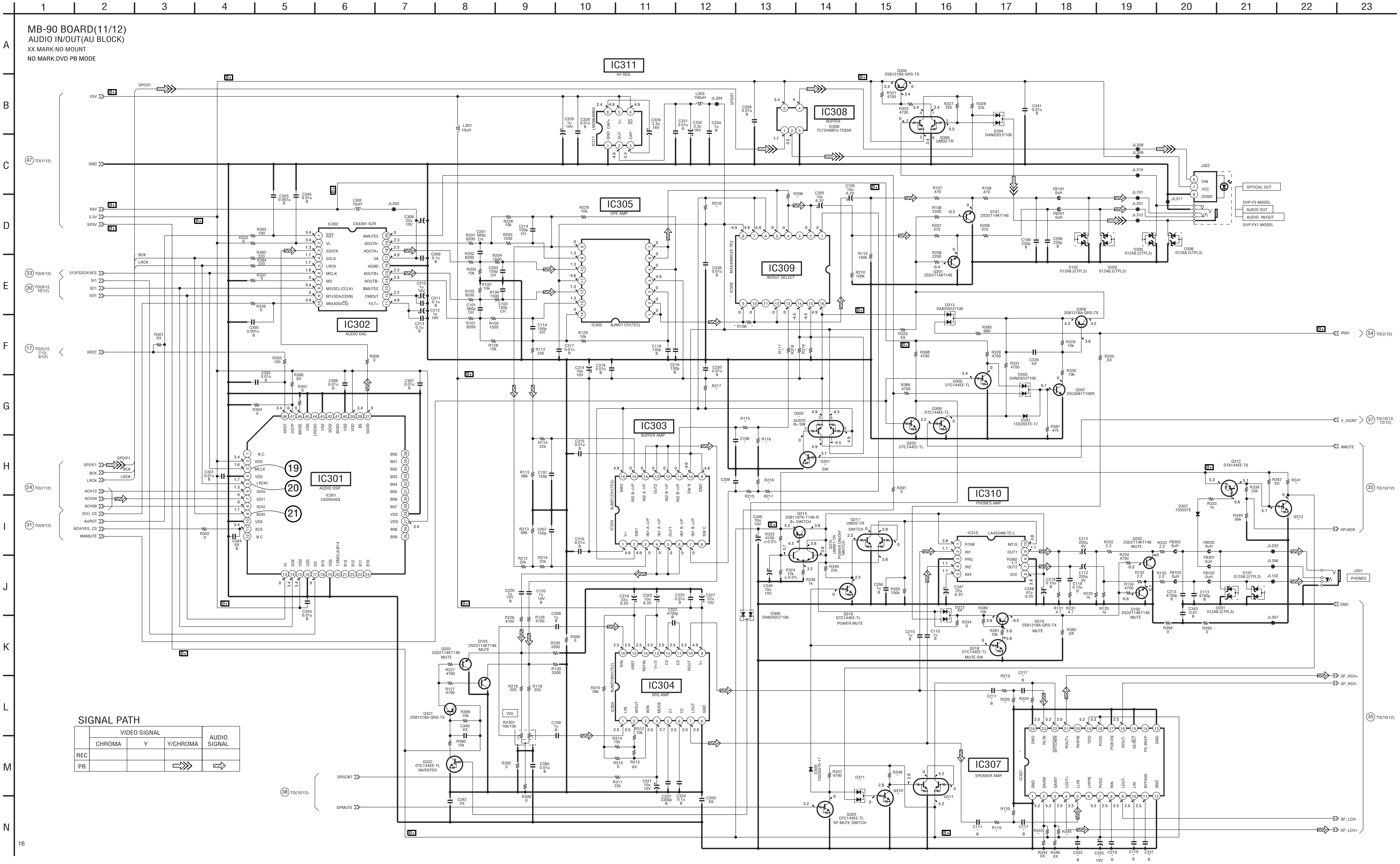

MB-90 BOARD(10/12)
IF CONTROLLER(IF COM BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
IC701
IF CONTROLLER
IC701
M37513M8-055GP
IC702
REMOTE COMMANDER RECEIVER
IC702
RS-50-T
IC703
RESET
IC703
RN5VD26AA-TL
CN701 28P
TO LC-68 BOARD CN1001
(SEE PAGE 4-6)
CN703 32P
TO TP-61 BOARD(1/3) CN1301
(SEE PAGE 4-39)
CN702 12P
TO BOARD CN
(SEE PAGE 4-)
Q702
DTA143ZUA-T106
LED +B SW
Q701
DTC124EUA-T106
LED DRIVE
X701
4MHz
FL701
DVP-F5 MODEL
DVP-FX1 MODEL
(STOP)
(PAUSE)
(NEXT)
(PREV)
TITLE
DVDMENU
RETURN
DISPLAY
ENTER
LEFT
UP
DOWN
RIGHT
HP SURROUND
ON
OFF
HOLD
(DOORSW1)
(DOORSW2)
(TFTOPEN)
(PLAY)
POWER
R729 100k XX ; R730 XX 100k : DVP-F5 MODEL : DVP-Fx1 MODEL
R731 732 774 775
DVP-F5/FX1:US,Canadian..... 100K XX 100K XX
:AEP,UK.......... XX 100K XX 100K
:Chinese.......... 100k xx xx 100k
DVP-F1:HongKong......... XX XX XX 100K
DVP-F5:AUSTRALIAN... xx 100k xx 100k
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H I J K L
16

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB	⇨	⇨		⇨

For Schematic Diagram

- Refer to page 4-7 for printed wiring board.
- Refer to page 4-35 for waveforms.


MB-90 BOARD(11/12)
AUDIO IN/OUT(AU BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
IC311 -5V REG
IC308 BUFFER TC7SH08FU-TE85R
IC305 OPE AMP NJM2112V(TE2)
IC302 AUDIO DAC CS4391-KZR
IC309 IN/OUT SELECT MAX4066CEE-TE2
IC301 AUDIO DSP CXD9545Q
IC303 BUFFER AMP NJM2123V(TE2)
IC304 SRS AMP NJM2195V(TE2)
IC310 PHONES AMP LA4534M-TE-L
IC307 SPEAKER AMP
J302 OPTICAL OUT
DVP-F5 MODEL AUDIO OUT
AUDIO IN/OUT DVP-FX1 MODEL
J301 PHONES
RV301 10k/10k VOL
V5V
GND
A5V
3.3V
SP5V
S12FS2CH/VES
SI1
SCI
SO1
XRST
SPDIF1
BCK
LRCK
ACH12
ACH34
ACH56
2CH_CS
AURST
6CH/VES_CS
MAMUTE
SRSCNT
SPMUTE
IR5V
V_IOCNT
AMUTE
HPJACK
SP_RCH+
SP_RCH-
SP_LCH-
SP_LCH+
47 TO(1/12)
33 TO(9/12)
30 TO(9/12, 10/12)
17 TO(5/12, 7/12, 9/12)
24 TO(7/12)
31 TO(9/12)
38 TO(10/12)
54 TO(2/12)
37 TO(10/12, 12/12)
35 TO(10/12)
19
20
21
16

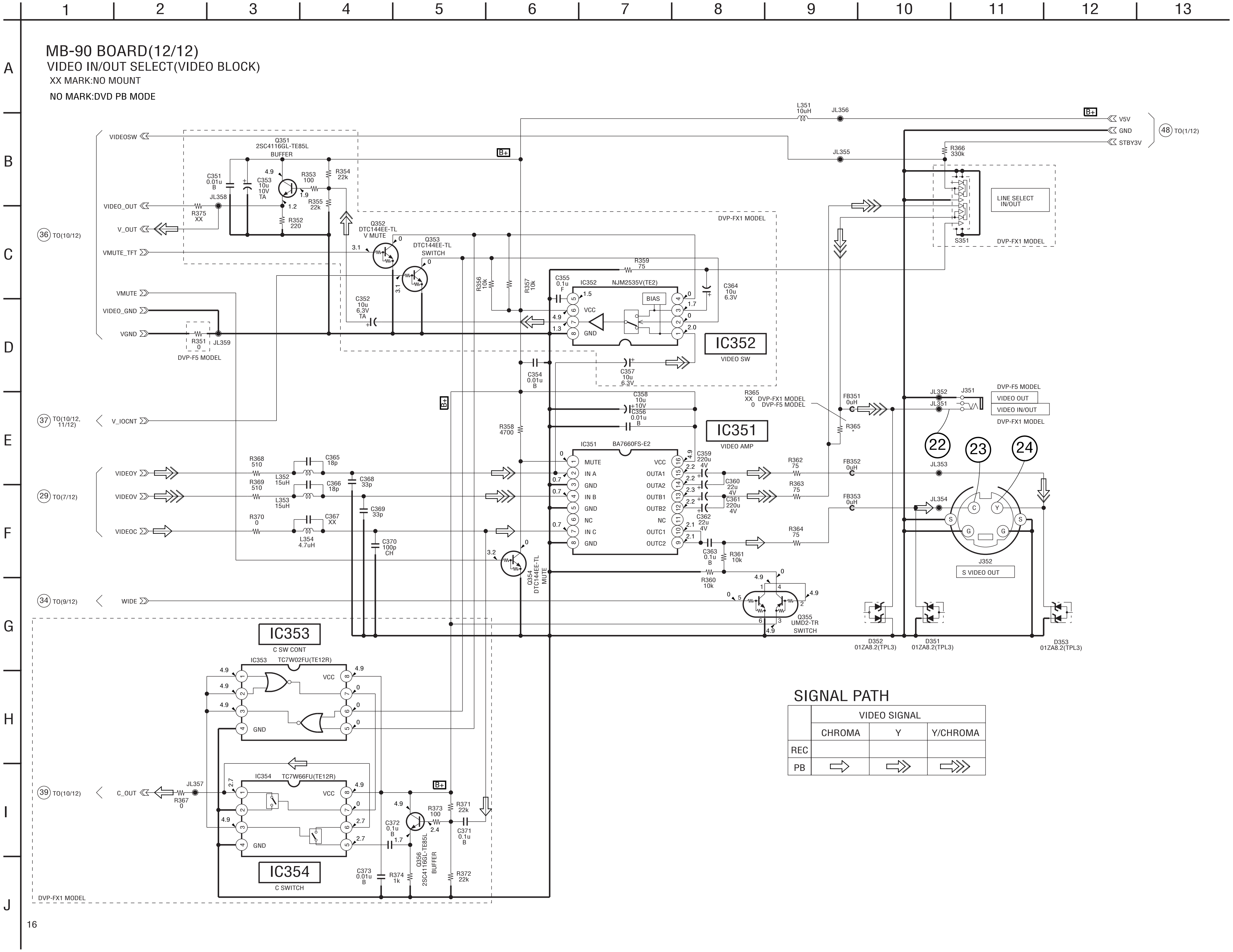
SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB			⇨	⇨

For Schematic Diagram
- Refer to page 4-7 for printed wiring board.
- Refer to page 4-35 for waveforms.

*MARKED:MOUNT TABLE

REF.NO.	DVP-FX1	DVP-F5
C108	150p 50V CH	XX
C111	1u 10V B	XX
C117	0.47u 16V B	XX
C119	0.47u 16V B	XX
C208	150p 50V CH	XX
C211	1u 10V B	XX
C217	0.47u 16V B	XX
C219	0.47u 16V B	XX
C333	0.01u 25V B	XX
C335	100u 10V	XX
C337	0.47u 16V B	XX
D311	DAN202UT10	XX
IC307	TPA0122PWPR	XX
IC309	MAX4066CEE	XX
Q301	DTC144EE-T	XX
Q302	UMD2-TR	XX
Q310	DTC144EE-T	XX
Q311	UMD2-TR	XX
Q313	DTC144EE-T	XX
R106	XX	0
R115	22k	0
R116	68k	0
R117	22k	XX
R119	0	XX
R120	100k	XX
R206	XX	0
R215	22k	0
R216	68k	0
R217	22k	XX
R219	0	XX
R220	100k	XX
R316	22k	XX
R317	XX	0
R318	22k	XX
R319	XX	0
R320	100k	XX
R341	4700	XX
R343	0	XX
R345	0	XX
R348	22k	XX

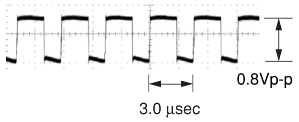

1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I J
MB-90 BOARD(12/12)
VIDEO IN/OUT SELECT(VIDEO BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
VIDEOSW
VIDEO_OUT
V_OUT
VMUTE_TFT
36 TO(10/12)
VMUTE
VIDEO_GND
VGND
37 TO(10/12, 11/12)
V_IOCNT
VIDEOY
VIDEOV
VIDEOC
29 TO(7/12)
34 TO(9/12)
WIDE
39 TO(10/12)
C_OUT
Q351
2SC4116GL-TE85L
BUFFER
C351 0.01u B
C353 10u 10V TA
R353 100
R354 22k
R355 22k
R352 220
R375 XX
JL358
R351 0
JL359
DVP-F5 MODEL
Q352 DTC144EE-TL V MUTE
Q353 DTC144EE-TL SWITCH
C352 10u 6.3V TA
R356 10k
R357 10k
C355 0.1u F
IC352 NJM2535V(TE2)
BIAS
VCC
GND
C364 10u 6.3V
R359 75
C357 10u 6.3V
C354 0.01u B
IC352
VIDEO SW
DVP-FX1 MODEL
L351 10uH
JL356
JL355
B+
V5V
GND
STBY3V
48 TO(1/12)
R366 330k
LINE SELECT IN/OUT
S351
C358 10u 10V
C356 0.01u B
R358 4700
IC351
VIDEO AMP
IC351 BA7660FS-E2
MUTE
IN A
GND
IN B
NC
IN C
VCC
OUTA1
OUTA2
OUTB1
OUTB2
OUTC1
OUTC2
C359 220u 4V
C360 22u 4V
C361 220u 4V
C362 22u 4V
C363 0.1u B
R361 10k
R360 10k
R362 75
R363 75
R364 75
R365 XX DVP-FX1 MODEL 0 DVP-F5 MODEL
R365 *
FB351 0uH
FB352 0uH
FB353 0uH
JL352
JL351
JL353
JL354
J351
DVP-F5 MODEL
VIDEO OUT
VIDEO IN/OUT
DVP-FX1 MODEL
22
23
24
J352
S VIDEO OUT
C Y S G
R368 510
R369 510
R370 0
L352 15uH
L353 15uH
L354 4.7uH
C365 18p
C366 18p
C367 XX
C368 33p
C369 33p
C370 100p CH
Q354 DTC144EE-TL MUTE
Q355 UMD2-TR SWITCH
D352 01ZA8.2(TPL3)
D351 01ZA8.2(TPL3)
D353 01ZA8.2(TPL3)
IC353
C SW CONT
IC353 TC7W02FU(TE12R)
IC354
C SWITCH
IC354 TC7W66FU(TE12R)
JL357
R367 0
Q356 2SC4116GL-TE85L BUFFER
R371 22k
R372 22k
R373 100
R374 1k
C371 0.1u B
C372 0.1u B
C373 0.01u B
16

SIGNAL PATH

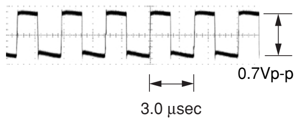
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			
PB	⇨	⇨»	⇨»»

MB-90 BOARD

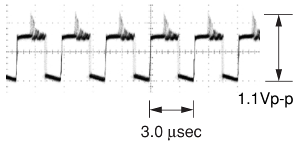
① IC401 ㊻ (OUT 1-1)



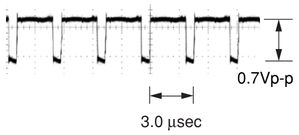
② IC401 ㊿ (OUT 1-2)



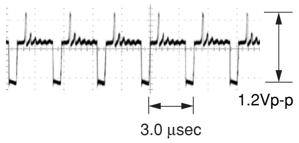
③ IC401 (56) (OUT 1-3)



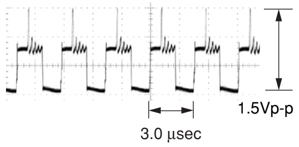
④ IC401 (57) (OUT 1-4)



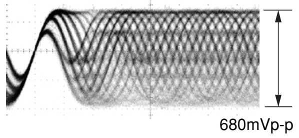
⑤ IC401 (64) (OUT 1-5)



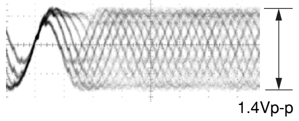
⑥ IC401 ④ (OUT 1-6)



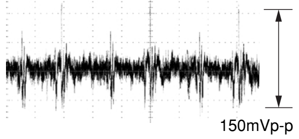
⑦ CN801 ④ (RF)



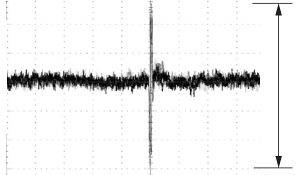
⑧ IC801 (57) (SIGO)



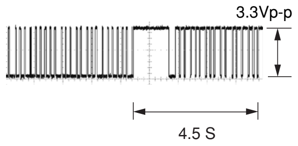
⑨ IC801 ㊷ (FE)



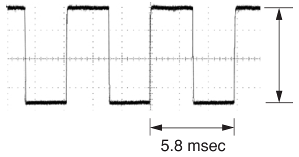
⑩ IC801 ㊶ (TE)



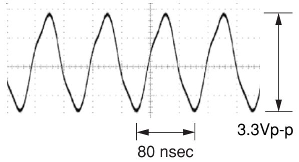
⑪ IC952 ㉙ (PG IN)



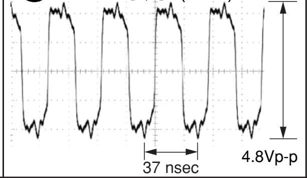
⑫ IC952 ㉜ (FG IN)



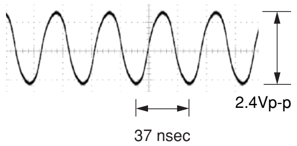
⑬ IC002 (54) (XO)



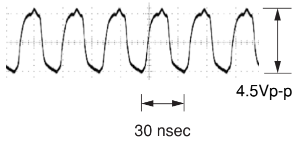
⑭ IC005 ③,㉔ (27M)



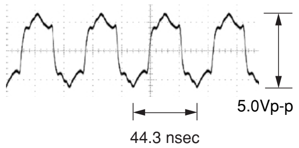
⑮ IC005 ⑨ (XTAL OUT)



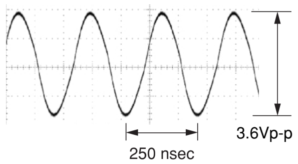
⑯ IC005 ⑫ (33M)



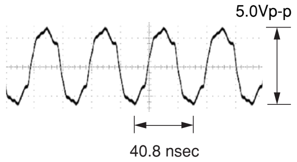
⑰ IC005 ⑮,⑯ (512 FS 1,2)



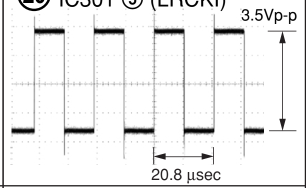
⑱ IC701 ㊲ (X OUT)



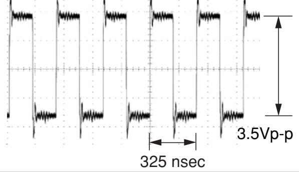
⑲ IC301 ③ (MCLK)



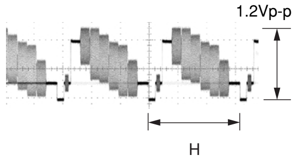
⑳ IC301 ⑤ (LRCKI)



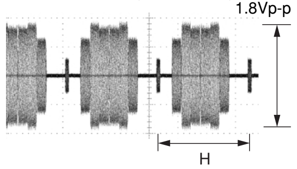
㉑ IC301 ⑨ (BCKI)



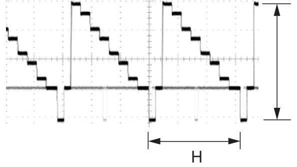
㉒ J351 (VIDEO OUT)



㉓ J352 Ⓒ (S-C OUT)

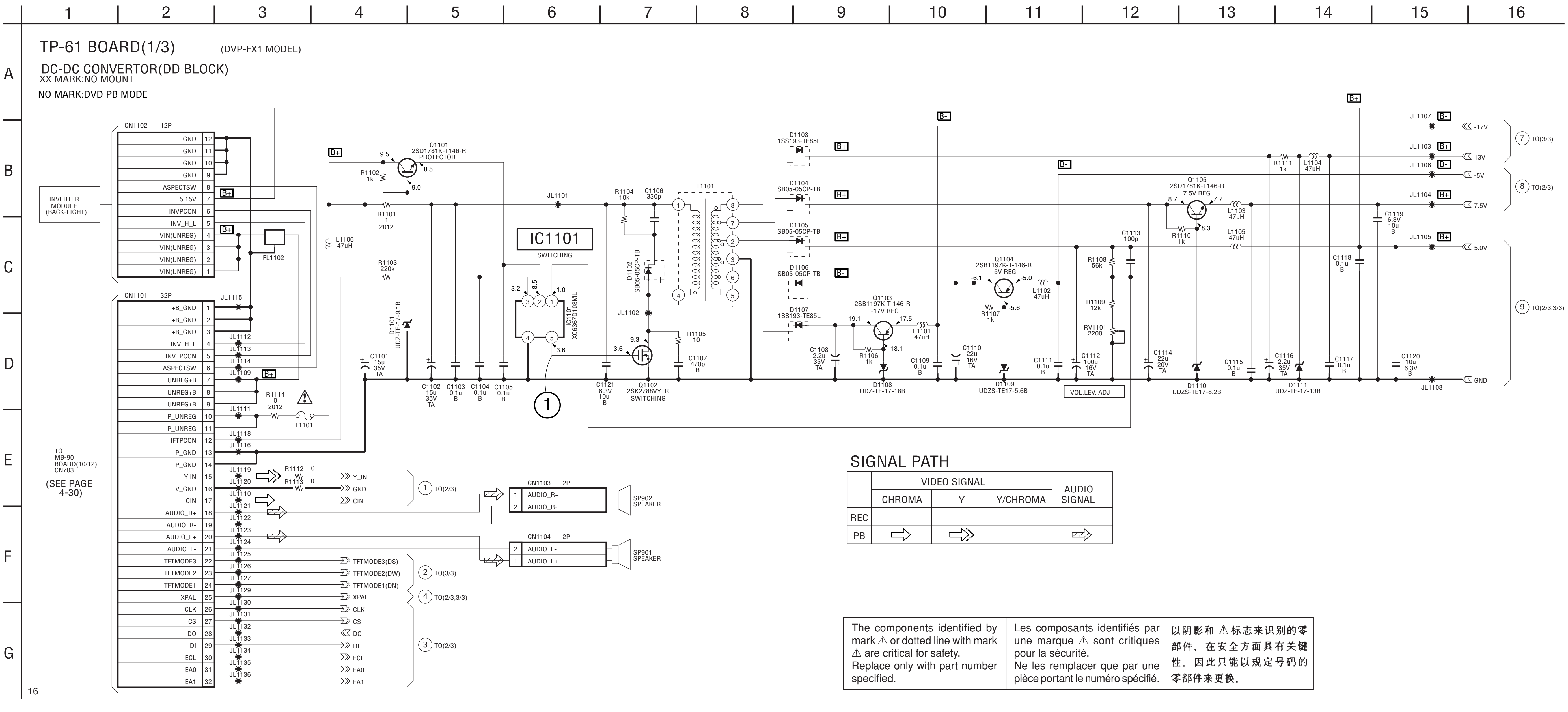


㉔ J352 Ⓨ (S-Y OUT)



MEMO

For Schematic Diagram
- Refer to page 4-45 for printed wiring board.
- Refer to page 4-47 for waveforms.


TP-61 BOARD(1/3)
(DVP-FX1 MODEL)
DC-DC CONVERTOR(DD BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
INVERTER MODULE (BACK-LIGHT)
CN1102 12P
GND
ASPECTSW
5.15V
INVPCON
INV_H_L
VIN(UNREG)
FL1102
CN1101 32P
+B_GND
INV_H_L
INV_PCON
ASPECTSW
UNREG+B
P_UNREG
IFTPCON
P_GND
Y IN
V_GND
CIN
AUDIO_R+
AUDIO_R-
AUDIO_L+
AUDIO_L-
TFTMODE3
TFTMODE2
TFTMODE1
XPAL
CLK
CS
DO
DI
ECL
EA0
EA1
TO MB-90 BOARD(10/12) CN703
(SEE PAGE 4-30)
R1114 0 2012
F1101
R1112 0
R1113 0
Y_IN
GND
CIN
TFTMODE3(DS)
TFTMODE2(DW)
TFTMODE1(DN)
1 TO(2/3)
2 TO(3/3)
4 TO(2/3,3/3)
3 TO(2/3)
CN1103 2P
AUDIO_R+
AUDIO_R-
SP902 SPEAKER
CN1104 2P
AUDIO_L-
AUDIO_L+
SP901 SPEAKER
Q1101 2SD1781K-T146-R PROTECTOR
R1102 1k
R1101 1 2012
R1103 220k
L1106 47uH
D1101 UDZ-TE-17-9.1B
C1101 15u 35V TA
C1102 15u 35V TA
C1103 0.1u B
C1104 0.1u B
C1105 0.1u B
IC1101 SWITCHING
IC1101 XC6367D103ML
JL1101
R1104 10k
C1106 330p
D1102 SB05-05CP-TB
JL1102
Q1102 2SK2788VYTR SWITCHING
C1121 6.3V 10u B
R1105 10
C1107 470p B
T1101
D1103 1SS193-TE85L
D1104 SB05-05CP-TB
D1105 SB05-05CP-TB
D1106 SB05-05CP-TB
D1107 1SS193-TE85L
Q1103 2SB1197K-T-146-R -17V REG
R1106 1k
C1108 2.2u 35V TA
D1108 UDZ-TE-17-18B
L1101 47uH
C1109 0.1u B
C1110 22u 16V TA
Q1104 2SB1197K-T-146-R -5V REG
R1107 1k
D1109 UDZS-TE17-5.6B
L1102 47uH
C1111 0.1u B
C1112 100u 16V TA
C1113 100p
R1108 56k
R1109 12k
RV1101 2200
VOL.LEV. ADJ
Q1105 2SD1781K-T146-R 7.5V REG
R1110 1k
L1103 47uH
L1105 47uH
C1114 22u 20V TA
D1110 UDZS-TE17-8.2B
C1115 0.1u B
C1116 2.2u 35V TA
D1111 UDZ-TE-17-13B
R1111 1k
L1104 47uH
C1117 0.1u B
C1118 0.1u B
C1119 6.3V 10u B
C1120 10u 6.3V B
JL1107 -17V
JL1103 13V
JL1106 -5V
JL1104 7.5V
JL1105 5.0V
JL1108 GND
7 TO(3/3)
8 TO(2/3)
9 TO(2/3,3/3)

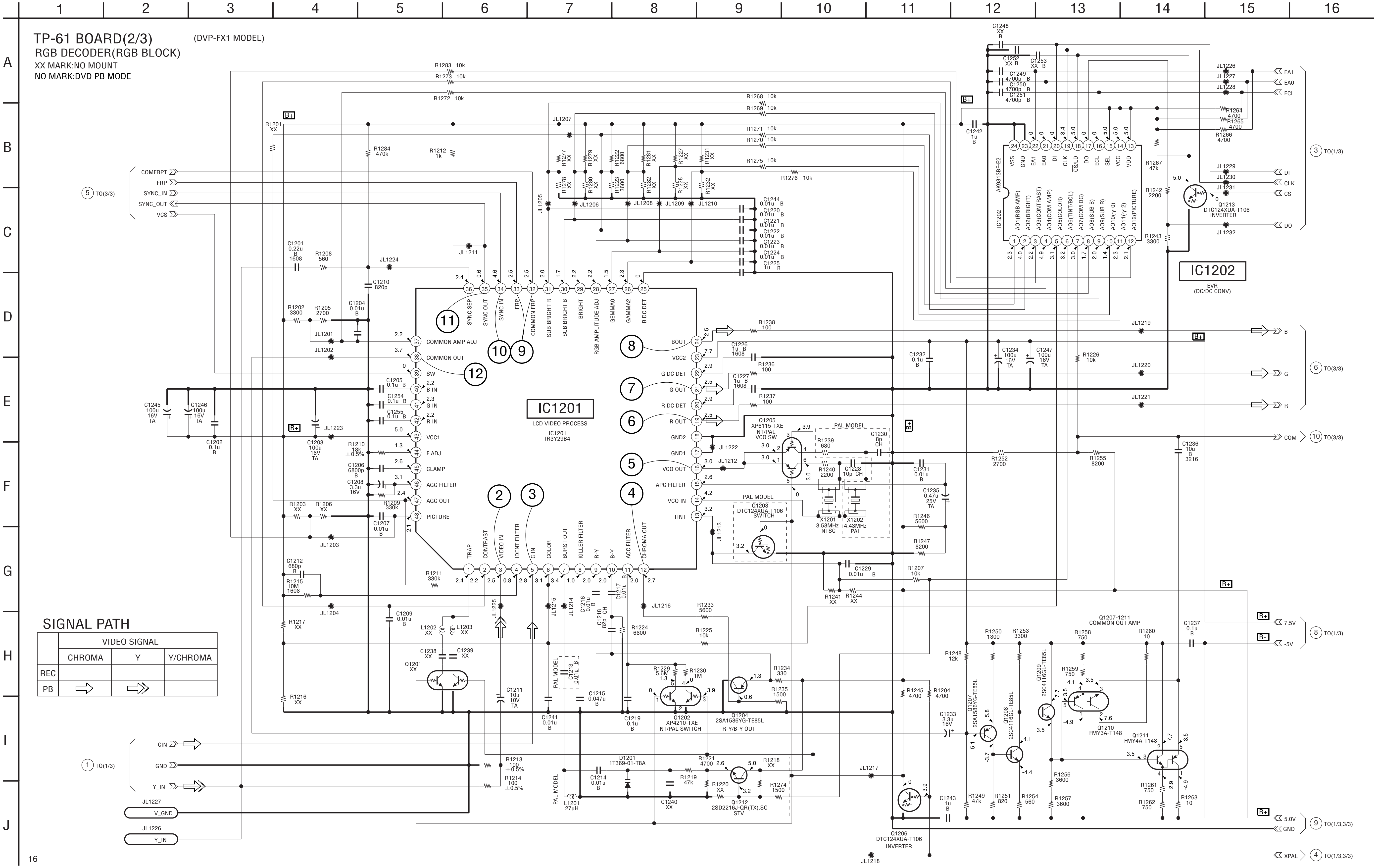
SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB	⇨	⇨		⇨

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

DC-DC CONVERTER
TP-61 (1/3)

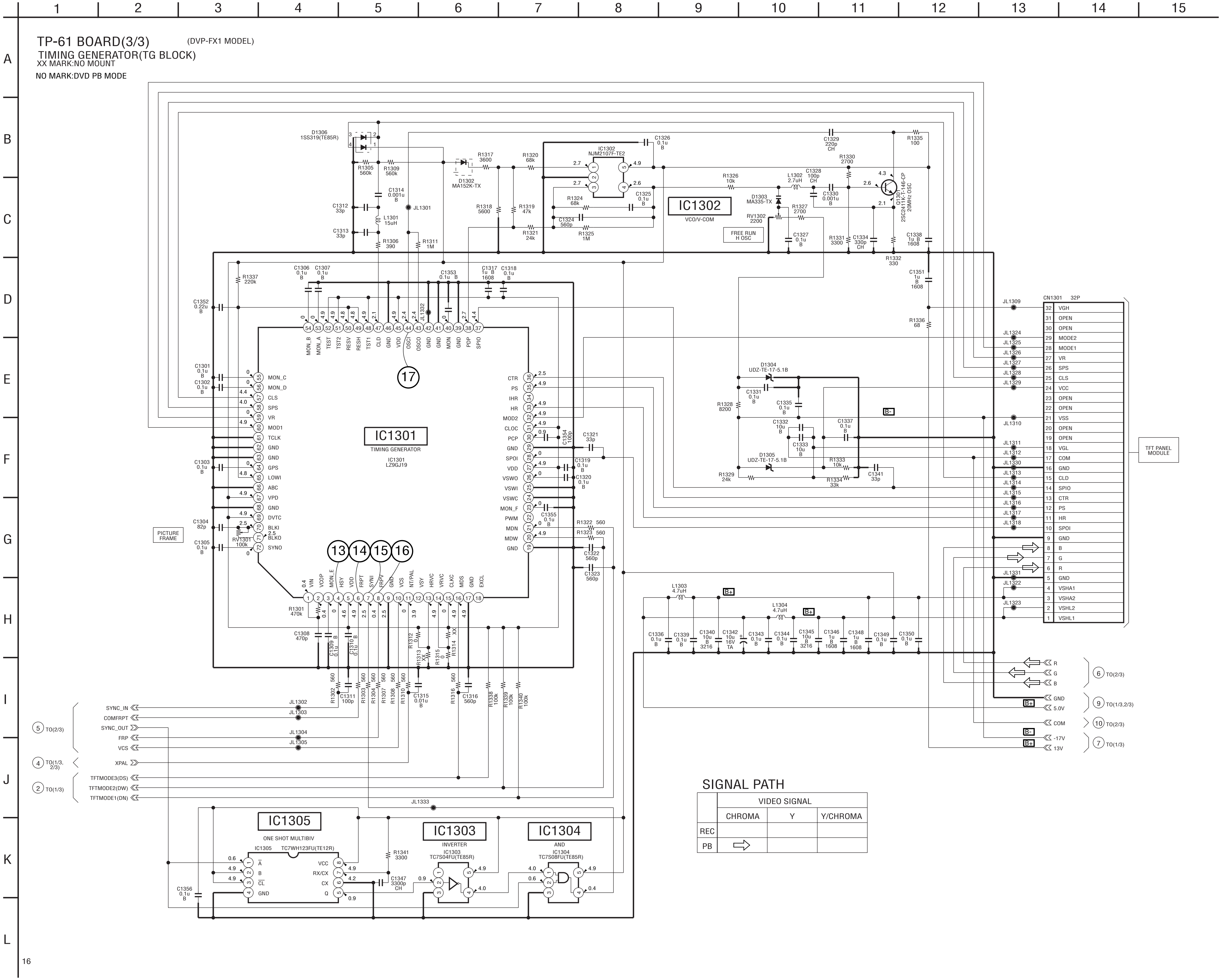
For Schematic Diagram
- Refer to page 4-45 for printed wiring board.
- Refer to page 4-47 for waveforms.


TP-61 BOARD(2/3)
(DVP-FX1 MODEL)
RGB DECODER(RGB BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
IC1201
LCD VIDEO PROCESS
IC1201
IR3Y29B4
IC1202
EVR
(DC/DC CONV)
AK9813BF-E2
Q1201
Q1202
XP4210-TXE
NT/PAL SWITCH
Q1203
DTC124XUA-T106
SWITCH
Q1204
2SA1586YG-TE85L
R-Y/B-Y OUT
Q1205
XP6115-TXE
NT/PAL
VCO SW
Q1206
DTC124XUA-T106
INVERTER
Q1207-1211
COMMON OUT AMP
Q1207
2SA1586YG-TE85L
Q1208
2SC4116GL-TE85L
Q1209
2SC4116GL-TE85L
Q1210
FMY3A-T148
Q1211
FMY4A-T148
Q1212
2SD2216J-QR(TX).SO
STV
Q1213
DTC124XUA-T106
INVERTER
D1201
1T369-01-T8A
X1201
3.58MHz
NTSC
X1202
4.43MHz
PAL
PAL MODEL
COMFRPT
FRP
SYNC_IN
SYNC_OUT
VCS
TO(3/3)
CIN
GND
Y_IN
TO(1/3)
V_GND
Y_IN
EA1
EA0
ECL
DI
CLK
CS
DO
B
G
R
COM
TO(3/3)
7.5V
-5V
TO(1/3)
5.0V
GND
TO(1/3,3/3)
XPAL
TO(1/3,3/3)
SYNC SEP
SYNC OUT
SYNC IN
FRP
COMMON FRP
SUB BRIGHT R
SUB BRIGHT B
BRIGHT
RGB AMPLITUDE ADJ
GEMMA0
GAMMA2
B DC DET
COMMON AMP ADJ
COMMON OUT
SW
B IN
G IN
R IN
VCC1
F ADJ
CLAMP
AGC FILTER
AGC OUT
PICTURE
BOUT
VCC2
G DC DET
G OUT
R DC DET
R OUT
GND2
GND1
VCO OUT
APC FILTER
VCO IN
TINT
TRAP
CONTRAST
VIDEO IN
IDENT FILTER
C IN
COLOR
BURST OUT
KILLER FILTER
R-Y
B-Y
ACC FILTER
CHROMA OUT
VSS
GND
EA1
EA0
DI
CLK
CS/LD
DO
ECL
SEL
VCC
VDD
AO1(RGB AMP)
AO2(BRIGHT)
AO3(CONTRAST)
AO4(COM AMP)
AO5(COLOR)
AO6(TINT/BCL)
AO7(COM DC)
AO8(SUB B)
AO9(SUB R)
AO10(γ 0)
AO11(γ 2)
AO12(PICTURE)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
16

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			
PB	⇨	⇨⇨	

For Schematic Diagram
- Refer to page 4-45 for printed wiring board.
- Refer to page 4-47 for waveforms.


TP-61 BOARD(3/3)
(DVP-FX1 MODEL)
TIMING GENERATOR(TG BLOCK)
XX MARK:NO MOUNT
NO MARK:DVD PB MODE
IC1301
TIMING GENERATOR
IC1301
LZ9GJ19
IC1302
VCO/V-COM
IC1302
NJM2107F-TE2
FREE RUN
H OSC
IC1305
ONE SHOT MULTIBIV
IC1305 TC7WH123FU(TE12R)
IC1303
INVERTER
IC1303
TC7S04FU(TE85R)
IC1304
AND
IC1304
TC7S08FU(TE85R)
D1306
1SS319(TE85R)
D1302
MA152K-TX
D1303
MA335-TX
D1304
UDZ-TE-17-5.1B
D1305
UDZ-TE-17-5.1B
Q1301
2SC2411K-T-146-CP
20MHz OSC
RV1301
100k
RV1302
2200
PICTURE
FRAME
CN1301 32P
32 VGH
31 OPEN
30 OPEN
29 MODE2
28 MODE1
27 VR
26 SPS
25 CLS
24 VCC
23 OPEN
22 OPEN
21 VSS
20 OPEN
19 OPEN
18 VGL
17 COM
16 GND
15 CLD
14 SPIO
13 CTR
12 PS
11 HR
10 SPOI
9 GND
8 B
7 G
6 R
5 GND
4 VSHA1
3 VSHA2
2 VSHL2
1 VSHL1
TFT PANEL
MODULE
SYNC_IN
COMFRPT
SYNC_OUT
FRP
VCS
XPAL
TFTMODE3(DS)
TFTMODE2(DW)
TFTMODE1(DN)
5 TO(2/3)
4 TO(1/3, 2/3)
2 TO(1/3)
6 TO(2/3)
9 TO(1/3,2/3)
10 TO(2/3)
7 TO(1/3)
R
G
B
GND
5.0V
COM
-17V
13V
B+
B-
JL1333
16
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
A B C D E F G H I J K L

SIGNAL PATH

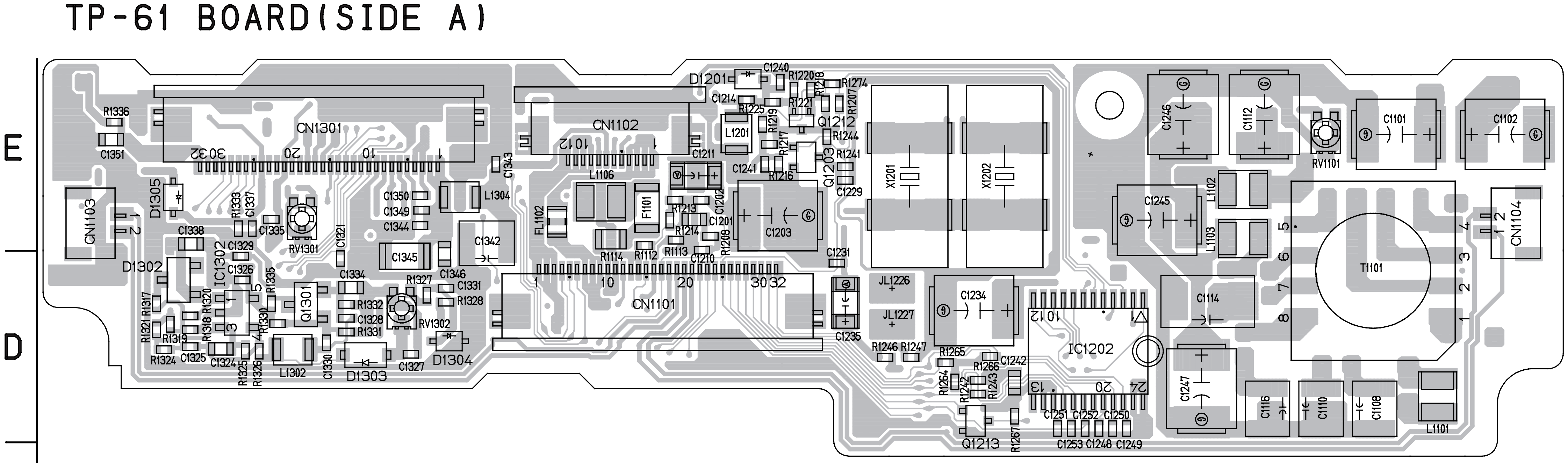
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC			
PB	⇨		

TIMING GENERATOR
TP-61 (3/3)

TP-61 (TIMING GEN, RGB DECODER) PRINTED WIRING BOARD

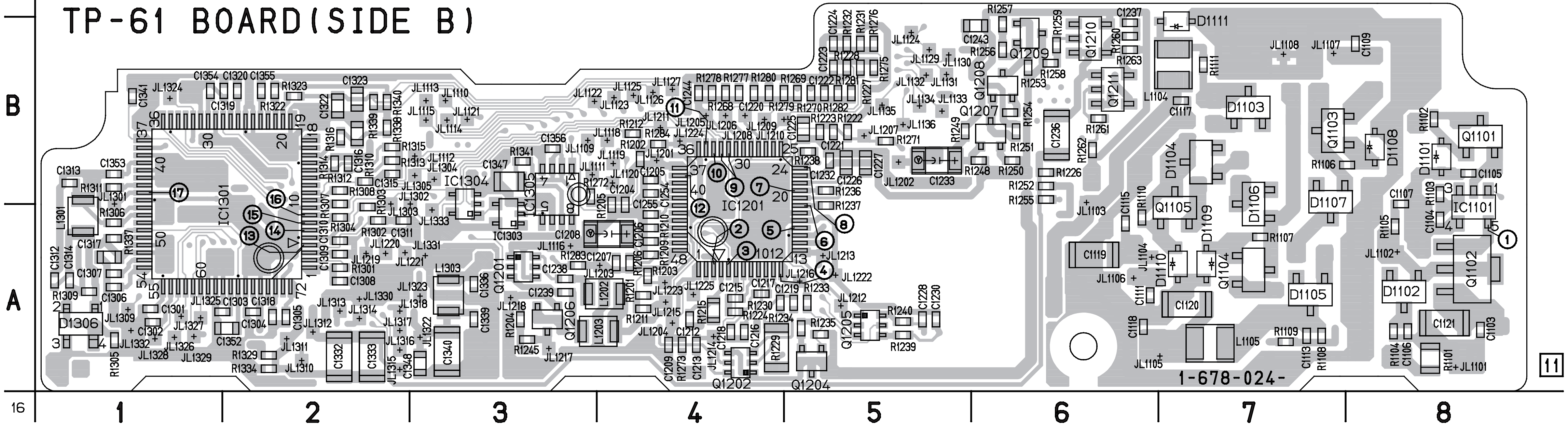
TP-61 BOARD (SIDE A)

CN1101	D-3
CN1102	E-4
CN1103	E-1
CN1104	E-8
CN1301	E-2
D1201	E-4
D1302	D-1
D1303	D-2
D1304	D-3
D1305	E-1
IC1202	D-6
IC1302	D-2
Q1203	E-4
Q1212	E-4
Q1213	D-5
Q1301	D-2

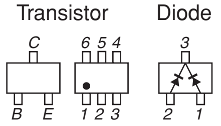

TP-61 BOARD(SIDE A)
E
D
CN1301
CN1102
CN1101
CN1103
CN1104
IC1302
IC1202
T1101
X1201
X1202
RV1101
RV1301
RV1302

TP-61 BOARD (SIDE B)

D1101	B-8
D1102	A-8
D1103	B-7
D1104	B-7
D1105	A-7
D1106	A-7
D1107	A-7
D1108	B-8
D1109	A-7
D1110	A-7
D1111	B-7
D1306	A-1
IC1101	A-8
IC1201	A-4
IC1301	A-1
IC1303	A-3
IC1304	A-3
IC1305	B-3
Q1101	B-8
Q1102	A-8
Q1103	B-7
Q1104	A-7
Q1105	A-7
Q1201	A-3
Q1202	A-4
Q1204	A-5
Q1205	A-5
Q1206	A-3
Q1207	B-6
Q1208	B-6
Q1209	B-6
Q1210	B-6
Q1211	B-6


C
TP-61 BOARD(SIDE B)
B
A
16
1
2
3
4
5
6
7
8
IC1301
IC1201
IC1101
IC1303
IC1304
1-678-024-
11

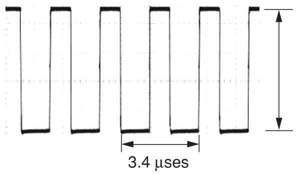
For printed wiring boards
- Refer to page 4-XX for parts location.
- This board is six-layer print board. However, the patterns of layers two to five have not been included in the diagram.
- Chip parts


Transistor
Diode
C
B
E
6 5 4
1 2 3
3
2
1

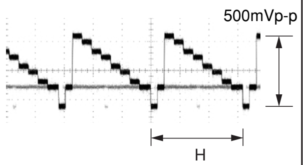
There are few cases that the part printed on this diagram isn't mounted in this model.

TP-61 BOARD

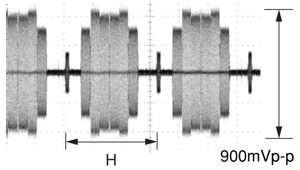
① IC1101 ⑤



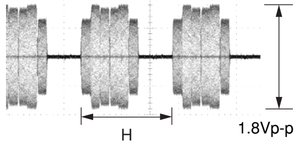
② IC1201 ③ (VIDEO IN)



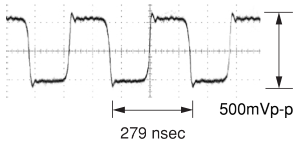
③ IC1201 ⑤ (CIN)



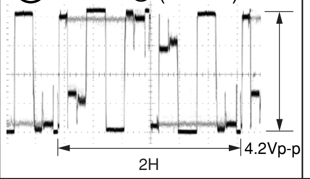
④ IC1201 ⑫
(CHROMA OUT)



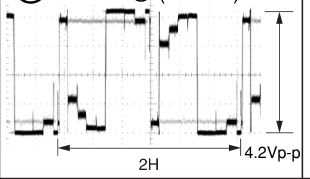
⑤ IC1201 ⑯ (VCO OUT)



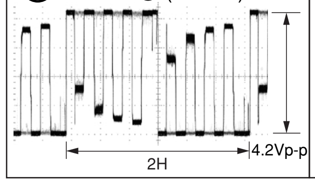
⑥ IC1201 ⑲ (R OUT)



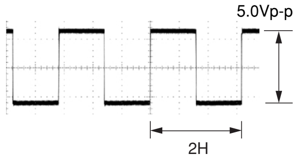
⑦ IC1201 ㉑ (G OUT)



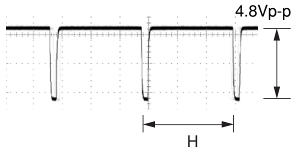
⑧ IC1201 ㉔ (B OUT)



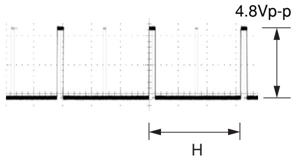
⑨ IC1201 ㉜,㉝ (FRP)



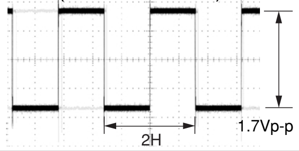
⑩ IC1201 ㉞ (SYNC IN)



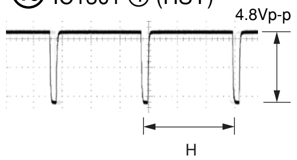
⑪ IC1201 ㉟ (SYNC OUT)



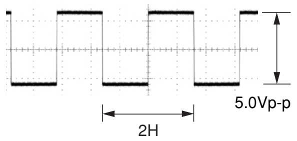
⑫ IC1201 ㊳
(COMMON OUT)



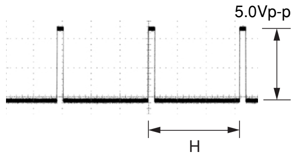
⑬ IC1301 ④ (HSY)



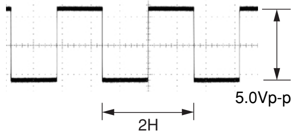
⑭ IC1301 ⑥ (FRPI)



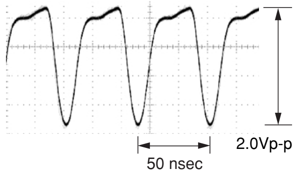
⑮ IC1301 ⑦ (SYNCI)



⑯ IC1301 ⑧ (FRPV)



⑰ IC1301 ㊹ (OSCI)



SECTION 5
IC PIN FUNCTION

5-1. SYSTEM CONTROL (MB-90 BOARD IC002: MB91107PFV-G-BEN)

Pin No.	Pin Name	I/O	Description
1 to 5	HA17 to HA21	O	Address bus A17 to A21
6	HA22	–	Not used
7	A23/P67	O	Not used
8	A34/P70	O	Not used
9	AVCC	–	Power supply
10	AVRH	–	Reference power supply (+3.3V)
11	AVSS	–	Ground
12	AN0	I	Set of mode 0
13	AN1	I	Set of mode 1
14	AN2	I	Set of mode 2
15	AN3	I	Set of mode 3
16	XRST	O	System reset signal output
17	OEB	–	Not used
18	CS6	O	Chip select signal for servo DSP
19	NC	–	Not used
20	EUROV/Y	O	Fixed to “H”
21	PH5/OCPAO	O	Fixed to “H”
22	ARPRST	O	Reset signal output fot ARP
23	DRVMUTE	O	Drive mute signal output
24	VCC	–	Power supply
25	INT0	I	Input of interrupt from AV DEC
26	INT1	I	Input of interrupt from ARP
27	INT2	I	Fixed to “H”
28	INT3	I	Input of interrupt from EEPROM
29	INT4	I	Input of interrupt from IF CON
30	INT5	I	Fixed to “H”
31	INT6	I	Fixed to “H”
32	INT7	I	Input of interrupt from servo DSP
33	SI0	I	Serial data input from IF CON and EEPROM
34	VSS	–	Ground
35	SO0	O	Serial data output to IF CON and EEPROM
36	SC0	O	Serial clock output to IF CON and EEPROM
37	SI1	I	Serial bus 1 (for data input) (to Audio DAC of TP-61 board)
38	SO1	O	Serial bus 1 (for data output) (to Audio DAC of TP-61 board)
39	SC1	O	Serial clock output (to Audio DAC of TP-61 board)
40	SI2	I	Serial bus 2 (for data input) (to Diag connector)
41	SO2	O	Serial bus 2 (for data output) (to Diag connector)
42	SC2	O	Fixed to “H”
43	DREQ0	I	Input of DMA-REQ 0 from AV DEC
44	DACK0	O	Output of DMA-ACK 0 to AV DEC
45	IFCS	O	Chip select signal to IF CON
46	DREQ1	I	Input of DMA-REQ 1 from AV DEC
47	DACK1	O	Output of DMA-ACK 1 to AV DEC
48	EWC	O	Write control signal output to EEPROM
49	ECS	O	Chip select signal output to EEPROM
50	EVRCS	O	Chip select signal output to EVR
51	AURST	O	Reset signal output to audio DAC
52	VSS	–	Ground
53	X1	O	Clock output (12.5MHz)
54	X0	I	Clock input (12.5MHz)

Pin No.	Pin Name	I/O	Description
55	VCC	–	Power supply
56	CKSW1	I	Chuck sensor input
57	OCSW1	I	Tray sensor input
58	OCSW2	I	Tray sensor input
59	2CH_CS	O	Chip select signal output to DAC (2CH)
60	VES_CS	O	Chip select signal output to VES DSP
61	48/44.1K	O	PLL FS control signal output
62	MAMUTE	O	Audio mute signal output
63	WIDE	O	WIDE select signal output
64	C	–	Capacitor (0.1uF) connect between ground
65	CS0X	O	External ROM chip select signal output (to EEPROM)
66	CS1X	–	Not used
67	CS2X	O	Chip select signal output (for AV DEC)
68	CS3X	O	Chip select signal output (for AV DEC)
69	CS4X	O	Chip select signal output (for ARP)
70	CS5X	O	Not used
71	CPUCK	O	CPU clock signal output
72	NMIX	–	Not used (fixed at “H”)
73	HSTX	–	Not used (fixed at “H”)
74	FRRSTIN	I	Reset signal input from IF CON
75	VSS	–	Ground
76	MD0	I	Input of mode select 0 (fixed at “I”)
77	MD1	–	Ground
78	MD2	–	Ground
79	XWAIT	I	Wait signal input
80	BGRNTX	–	Test terminal (fixed at “H”)
81	BRQ	–	Test terminal (fixed at “L”)
82	RD	O	Read enable signal output
83	WRH	O	High byte write enable signal output (16 bit and 8 bit)
84	NC	–	Not used
85 to 92	HD0 to HD7	I/O	Data bus D0 to D7 (16 bit only)
93 to 100	HD8 to HD15	I/O	Data bus D8 to D15 (16 bit), D0 to D7 (8 bit)
101	VSS	–	Ground
102 to 109	HA0 to HA7	O	Address bus A00 to A07
110	VCC	–	Power supply
110 to 118	HA8 to HA15	O	Address bus A08 to A15

5-2. IF CONTROL (MB-90 BOARD IC701: M37513MB-055GP)

GP Pin	Pin name	I/O	Function
1	DCOUNT MNT	I	External power supply voltage monitor input
2	KEY3	I	D KEY3 input
3	KEY2	I	D KEY2 input
4	KEY1	I	D KEY1 input
5	CHGMNT	I	Battery voltage input
6	TEMP	I	Main unit temperature measurement
7	VCCMNT	I	DC voltage monitor input
8	PON_CHK	I	Power supply (SW3.3V) voltage monitor input
9	BATTYPE	I	Battery type discrimination input
10	HPJACK	I	HP JACK insertion discrimination input
11	IR	I	REMOCON input
12	VIDEOSW	I	VIDEO input/output select switch input
13	SRSSW	I	SRS select switch input
14	ASPECTSW	I	TFT display mode select switch input
15	SELF_CHECK	I	Self-check identification input
16	XTFT	I	TFT model identification input
17	XIFBUSY	O	Communication start request to system computer
18	SCLK11	I	Communication SCLK with system computer
19	SOUT1	O	Communication SOUT with system computer
20	SIN1	I	Communication SIN with system computer
21	LBCHG	O	Low battery charge control output
22	DOORSW1	I	Disc lid open detection input 1
23	XIFCS	I	CS signal input from system computer
24	XPALSET	I	Destination identification input (NT/PAL destination identification)
25	TFTMODE3	O	TFT display mode control output 3
26	TFTMODE2	O	TFT display mode control output 2
27	TFTMODE1	O	TFT display mode control output 1
28	XPAL	O	TFT NTSC/PAL select control output
29	ECL	O	EVR control output
30	EA1	O	EVR control output
31	EAO	O	EVR control output
32	XDCIN	I	DC connection detection input
33	XRESET	I	RESET input
34	XCIN	I	(Low speed clock input)
35	XCOUT	O	(Low speed clock output)
36	XIN	I	High speed clock input (4 MHz)
37	XOUT	O	High speed clock output (4 MHz)
38	VSS	–	Power supply ground
39	TFTOPEN	I	TFT block open detection input
40	DOORSW2	I	Disc lid open detection input 2
41	POWER	I	POWER KEY input
42	BATTSW	I	Battery attachment detection switch input
43	HOLD	I	Hold switch input
44	DCOUNT JACK	I	DCOUT JACK insertion detection input
45	PLAY	I	PLAY KEY input
46	USSET	I	US destination identification input
47	P17	O	(RESERVE)
48	P16	O	(RESERVE)
49	P15	O	(RESERVE)
50	P14	O	(RESERVE)

51	P13	O	(RESERVE)
52	P12	O	(RESERVE)
53	P11	O	(RESERVE)
54	P10	O	(RESERVE)
55	INV_H_L	O	TFT inverter 2-step dimmer control output
56	SRSCNT	O	SRS control output
57	V_IOCNT	O	VIDEO input/output selector switch output
58	IRPCON	O	REMOCON receptor power supply control output
59	DVDPCON	O	Power supply control output of disc playback system
60	VMUTE_TFT	O	VMUTE output for TFT LCD panel
61	XFRRST	O	Syscon reset control output
62	POO	O	(RESERVE)
63	MAINPCON	O	Main power supply control output
64	CHGCNT	O	Charge control output
65	INVPCON	O	Inverter lighting control output
66	TFTPCON	O	TFT block power supply control output
67	VMUTE	O	VIDEO mute control output
68	AMUTE	O	AUDIO mute control output
69	SPMUTE	O	SPEAKER mute control output
70	LCDPCON	O	Function display LCD backlight control output
71	SEG17	O	(RESERVE)
72	SEG16	O	LCD segment output
73	SEG15	O	LCD segment output
74	SEG14	O	LCD segment output
75	SEG13	O	LCD segment output
76	SEG12	O	LCD segment output
77	SEG11	O	LCD segment output
78	SEG10	O	LCD segment output
79	SEG09	O	LCD segment output
80	SEG08	O	LCD segment output
81	SEG07	O	LCD segment output
82	SEG06	O	LCD segment output
83	SEG05	O	LCD segment output
84	SEG04	O	LCD segment output
85	SEG03	O	LCD segment output
86	SEG02	O	LCD segment output
87	SEG01	O	LCD segment output
88	SEG00	O	LCD segment output
89	VCC	–	Power supply 3.3 V
90	VREF	–	AD converter reference voltage
91	AVSS	–	AD converter ground
92	COM3	O	LCD common output
93	COM2	O	LCD common output
94	COM1	O	LCD common output
95	COM0	O	LCD common output
96	VL3	–	LCD power supply input
97	VL2	–	LCD power supply input
98	C2	–	The terminal to which external capacitor setup for LCD, is connected.
99	C1	–	The terminal to which external capacitor setup for LCD, is connected.
100	VL1	–	LCD power supply input

SECTION 6
TEST MODE

6-1. GENERAL DESCRIPTION

The Test Mode allows you to make diagnosis and adjustment easily using the remote commander and monitor TV. The instructions, diagnostic results, etc. are given on the on-screen display (OSD).

6-2. STARTING TEST MODE

Press TITLE, CLEAR, POWER buttons on the remote commander in this order with the power of main unit in OFF status, and the Test Mode starts, then the menu shown below will be displayed on the TV screen. At the bottom of menu screen, the model name and revision number are displayed.
To execute each function, select the desired menu and press its number on the remote commander.
To exit from the Test Mode, press the POWER button.

```
          Test Mode Menu

0. Syscon Diagnosis
1. Drive Auto Adjustment
2. Drive Manual Operation
3. EVR Adjust
4. Emergency History
5. Version Information
6. Video Level Adjustment
             Exit : Power Key

Model : DPX13xxxx
Revision : 1.xxxx
```

6-3. SYSCON DIAGNOSIS

The same contents are board detail check by serial interface can be checked from the remote commander.
On the Test Mode Menu screen, press 0 key on the remote commander, and the following check menu will be displayed.

```
    ### Syscon Diagnosis ###
           Check Menu
0. Quit
1. All
2. Version
3. Peripheral
4. Servo
5. Supply
6. AV Decoder
7. Video
8. Audio
-
```

0. Quit

Quit the Syscon Diagnosis and return to the Test Mode Menu.

1. All

All items continuous check
This menu checks all diagnostic items continuously. Normally, all items are checked successively one after another automatically unless an error is found, but at a certain item that requires judgment through a visual check to the result, the following screen is displayed for the key entry.

```
    ### Syscon Diagnosis ###

         Diag All Check
         No. 2 Version

2-3. ROM Check Sum
Check Sum = xxxx


Press NEXT Key to Continue
Press PREV Key to Repeat
-
```

For the ROM Check, the check sum calculated by the Syscon is output, and therefore you must compare it with the specified value for confirmation.
Following the message, press NEXT key to go to the next item, or PREV key to repeat the same check again. To quit the diagnosis and return to the Check Menu screen, press STOP or ENTER key. If an error occured, the diagnosis is suspended and the error code is displayed as shown below.

```
    ### Syscon Diagnosis ###



 3-2. EEPROM Check
Error 03 : EEPROM Write/Reed N
Address : 00000001
Write Data : 2492
Read Data : 2490
Press NEXT Key to Continue
Press PREV Key to Repeat
-
```

Press STOP key to quit the diagnosis, or PREV key to repeat the same item where an error occurred, or NEXT key to continue the check from the item next to faulty item.

Submenu

Selecting 2 and subsequent items calls the submenu screen of each item.
For example, if “5. Supply” is selected, the following submenu will be displayed.

```
    ### Syscon Diagnosis ###
           Check Menu
          No.5 Supply
0. Quit
1. All
2. ARP Register Check
3. ARP to RAM Data Bus
4. ARP to RAM Address Bus
5. ARP RAM Check
-
```

0. Quit

Quit the submenu and return to the main menu.

1. All

All submenu items continuous check

This menu checks 2 and subsequent items successively. At the item where visual check is required for judgment or an error occurred, the checking is suspended and the message is output for key entry. Normally, all items are checked successively one after another automatically unless an error is found.

Selecting 2 and subsequent items executes respective menus and outputs the results.

For the contents of each submenu, see "Check Items List".

General Description of Checking Method

2. Version

(2-2) Revision

ROM revision number is displayed.

Error : Not detected.

The revision number defined in the source file of ROM (IC004) is displayed with four digits.

(2-3) ROM Check Sum

Check sum is calculated.

Error : Not detected.

The data are added of ROM (IC004) and the result is displayed with 4-digit hexadecimal number. Error is not detected. Compare the result with the specified value.

(2-4) Model Type

Model code is displayed.

Error : Not detected.

The model code is displayed with 2-digit hexadecimal number.

	Model	type
DVP-FX1	9	1
DVP-F5	A	1

(2-5) Region

Region code is displayed.

Error : Not detected.

The region code determined from the model code is displayed.

3. Peripheral

(3-2) EEPROM Check

Data write → read, and accord check

Error 03 : EEPROM write/read discord.

Before writing, the data are saved, then after checking, they are written to restore the contents of EEPROM.

4. Servo

(4-2) Servo DSP Check

Data write → read, and accord check

Error 12 : Read data discord

(4-3) DSP Driver Test

Test signal data → DSP Driver

Error : Not detected.

5. Supply

Caution : Do not conduct this check with a mechanical deck connected.

An access is made to the stream supply and servo control IC (IC602) and external RAM (IC603) using check data. If mechanical deck is connected, the motor and optics could be damaged. This check is also executed by the "All" menu item.

Supplement : How to disconnect mechanical deck

Disconnect flexible flat cables connected to the CN801, CN802, CN803 and CN804 of MB-90 board.

(5-2) ARP Register Check

Data write → read, and accord check

Error 08 : ARP register write, and read data discord.

(5-3) ARP to RAM Data Bus

Data write → read, and accord check

Error 09 : ←→ RAM data bus error

Data 0x0001 to 0x8000 where one bit each is set to 1 are written to the address 0 of RAM (IC603) connected to the ARP (IC602) through the bus, then they are read and checked. In case of discord, written bit pattern and read data are displayed. If data where multiple bits are 1 are read, the bits concerned may touch each other. Further, if data where certain bit is always 1 or 0 regardless of written data, the line could be disconnected or shorted.

(5-4) ARP to RAM Address Bus
Data write → other address read discord check
Error 10 : ARP → RAM data bus error
Caution : Address and data display in case of an error is different from the display of other diagnosis (described later).

Before starting the test, all addresses of RAM (IC603) are cleared to 0x0000.

First, 0xA55A is written to the address 0x00000, and the address data are read and checked from addresses 0x00001 to 0x80000 while shifting 1 bit each. Next, the data at that address is cleared, and it is written to the address 0x00001, and read and checked in the same manner. This check is repeated up to the address 0x80000 while shifting the address data by 1 bit each.

If data other than 0 is read at the addresses except written address, an error is given because all addresses were already cleared to 0. In this check, the error display pattern is different from that of other diagnosis ; read data, written address, and read address are displayed in this order. However, the message uses same template, and accordingly exchange Address and Data when reading. The following display, for example,

```
    ### Syscon Diagnosis ###



 5-4. ARP to RAM Address Bus
Error 10 : ARP - RAM Address B
Address : 0000A55A
Write Data : 00000000
Read Data : 00000000
Press NEXT Key to Continue
Press PREV Key to Repeat
-
```

shows the data 0xA55A was read from address 0x00080000 though it was written to the address 0x00000000. This implies that these addresses are in the form of shadow. Also, if the read data is not 0xA55A, another error will be present.

(5-5) ARP RAM Check
Data write → read, and accord check
Error 11 : ARP RAM read data discord
The program code data stored in ROM are copied to all areas of RAM (IC603) connected to the ARP (IC602) through the bus, then they are read and checked if they accord. If the detail check was selected initially, the data are written to all areas and read, then the same test is conducted once again with the data where all bits are inverted between 1 and 0. If discord is detected, faulty address, written data, and read data are displayed following the error code 11, and the test is suspended.

6. AV Decoder

(6-2) 1932 RAM
Data write → read, and accord check
Error 13 : ARP RAM read data discord
The program code data stored in ROM (IC004) are copied to all areas of RAM (IC653, IC654) connected to the AVD (IC652) through the bus, then they are read and checked if they accord. Further, the same test is conducted once again with the data where all bits are inverted between 1 and 0. If discord is detected, faulty address, written data, and read data are displayed following the error code 13, and the test is suspended.

(6-3) 1932 SP
ROM → AVD RAM → Video OUT
Error : Not detected
The data including sub picture streams in ROM (IC004) are transferred to the RAM (IC653, IC654) in AVD (IC652) and output as video signals from the AVD (IC652).
They are output from all video terminals (Composite, Y/C, Component) except EURO AV terminal.

7. Video

(7-2) Color Bar
AVD color bar command write → Video OUT
Error : Not detected.
The command is transferred to the AVD, and the color bar signals are output from video terminals.
They are output from all video terminals (Composite, Y/C, Component).

8. Audio

(8-2) ARP → 1932
Error 14 : ARP → 1932 video NG
Error 15 : ARP → 1932 audio NG

(8-3) Test Tone
A pink noise signal is output from the AVD (IC652) through optical coaxial digital terminal and analog audio terminal.
Error : Not detected.
All channels → 2 ch Left → 2 ch Right are checked in this order.

Check Items List

2. Version
(2-2) Revision
(2-3) ROM Check Sum
(2-4) Model type
(2-5) Region

3. Peripheral
(3-1) EEPROM Check

4. Servo
(4-2) Servo DSP Check
(4-2) DSP Driver Test

5. Supply (Data Supply)
(5-2) ARP Register Check
(5-3) ARP to RAM Data Bus
(5-4) ARP to RAM Address Bus
(5-5) ARP RAM Check

6. AV Decoder
(6-2) 1932 RAM
(6-3) 1932 SP

7. Video (Video Output)
(7-2) Color Bar

8. Audio (Audio Output)
(8-2) ARP→1932
(8-3) Test Tone

Error Codes List

00: Error not detected
01: RAM write/read data discord
02: Gate array NG
03: EEPROM NG
04: Flashmemory clear error
05: Flash memory write error
06: Flash memory read data discord
08: ARP register read data discord
09: ARP ←→ RAM data bus error
10: ARP ←→ RAM address bus error
11: ARP RAM read data discord
12: Servo DSP NG
13: 1932 SDRAM NG
14: ARP → 1932 cideo NG
15: ARP → 1932 audio NG
16: 1932 UCODE download NG
17: System call error (function not supported)
18: System call error (parameter error)
19: System call error (illegal ID number)
20: System call error (time out)
21: NAND Flash faulty blocks exceed 10
90: Error occurred
91: User verification NG
92: Diagnosis cancelled

6-4. DRIVE AUTO ADJUSTMENT

On the Test Mode Menu screen, press 1 key on the remote commander, and the drive auto adjustment menu will be displayed.

```
 ### Drive Auto Adjustment ###

        Adjustment Menu

0. All
1. DVD-SL
2. CD
3. DVD-DL
4. SACD

                  Exit : RETURN
```

Normally, 0 is selected to adjust DVD (single layer), CD, DVD (dual layer), and SACD in this order. But, individual items can be adjusted for the case where adjustment is suspended due to an error. In this mode, the adjustment can be made easily through the operation following the message displayed on the screen.
The disc used for adjustment must be the one specified for adjustment. However, for SACD disc, use the player with initial data if the disc is not available.

Note : The optical laser does not turn on when the disc lid is not closed in the DVP-FX1/F5. When a disc is inserted, be sure to close the disc lid before starting adjustment.
* It is judged that the disc lid is closed when the switches S713 and S714 are turned on.

0. All

You will be asked if EEPROM data are initialized or not, and for this prompt, select 0 and press the ENTER key, and the servo set data in EEPROM will be initialized. Then, 1. DVD-SL disc, 2. CD disc, 3. DVD-DL disc, and 4. SACD disc are adjusted in this order. Each time one disc is adjusted, open and close the disc lid. Replace the disc following the message. Though the message to confirm whether discs other than SACD disc are adjusted is not displayed, you can finish the adjustment if pressing the STOP button. The S curve level, RF level, and jitter value can be confirmed during adjustment, and if OK, press the ENTER key and continue adjustment. (If NG, press the STOP button) During adjustment of each disc, the measurement for disc type judgment is made. As automatic adjustment does not judge the disc type unlike conventional models, take care not to insert wrong type discs. Also, do not give a shock during adjustment.

1. DVD-SL (single layer disc)

Select 1, insert DVD single layer disc, and press ENTER key, and the adjustment will be made through the following steps, then adjusted values will be written to the EEPROM.

DVD Single Layer Disc Adjustment Steps

1. SLED TILT Reset
2. Disc Check Memory SL
3. Wait 500 msec
4. Set Disc Type SL
5. LD ON
6. Spdl Start
7. Wait 1 sec
8. Focus Serach ON
9. Focus Search OFF
10. Focus Servo ON 1
11. Auto Track Offset Adjust
12. Tracking ON
13. CLVA ON
14. Wait 1 sec
15. Sled ON
16. Check CLV Lock
17. Auto LFO Adjust
18. Auto Focus Offset Adjust
19. Auto Tilt Position Adjust
20. Auto Focus Gain Adjust
21. Auto Focus Offset Adjust
22. EQ Boost Adjust
23. Auto LFO Adjust
24. Auto Track Gain Adjust
25. All Servo Stop
26. Eep Copy Loop Filter Offset

2. CD (CD disc)

Select 2 , insert CD disc, and press ENTER key, and the adjustment will be made through the following steps, then adjusted values will be written to the EEPROM.

CD Adjustment Steps

1. Sled Tilt Reset
2. Disc Check Memory CD
3. Wait 500 msec
4. Set Disc Type CD
5. LD ON
6. Spdl Start
7. Wait 1 sec
8. Focus Search ON
9. Focus Search OFF
10. Focus Servo ON 1
11. Auto Track Offset Adjust
12. Tracking ON
13. (TC Display Start)
14. CLVA ON
15. Wait 1 sec
16. Jitter Display Start
17. Sled ON
18. Check CLV Lock
19. Auto LFO Adjust
20. Auto Focus Offset Adjust
21. Auto Focus Gain Adjust
22. Auto Focus Offset Adjust
23. Eq Boost Adjust
24. Auto LFO Adjust
25. Auto Track Gain Adjust
26. All Servo Stop

3. DVD-DL (dual layer disc)

Select 3 , insert DVD dual layer disc, and press ENTER key, and the adjustment will be made through the following steps, then adjusted values will be written to the EEPROM.

DVD Dual Layer Disc Adjustment Steps

1. Sled Tilt Reset
2. Disc Check Memory DL
3. Wait 500 msec
4. Set Disc Type DL
5. LD ON
6. Spdl Start
7. Wait 1 sec
   Layer 1 Adjust
8. Focus Servo ON
9. Auto Track Offset Adjust
10. Tracking ON
11. Clva ON
12. Wait 1 sec
13. Sled On
14. Check CLV Lock
15. Auto Loop Filter Offset Adjust
16. Auto Focus Offset Adjust
17. Auto Focus Gain Adjust
18. Auto Focus Offset Adjust
19. Eq Boost Adjust
20. Auto Loop Filter Offset
21. Auto Track Gain Adjust
22. Fj (L1 → L0)
23. Auto Track Offset Adjust L0
24. Tracking ON
25. Clva ON
26. Wait 1 sec
27. Sled On
28. Check CLV Lock
29. Auto Loop Filter Offset Adjust
30. Auto Focus Offset Adjust
31. Auto Focus Gain Adjust
32. Auto Focus Offset Adjust
33. Eq Boost Adjust
34. Auto Loop Filter Offset
35. Auto Track Gain Adjust
36. All Servo Stop

4. SACD (SACD disc)

Select 4, insert SACD disc, and press ENTER key, and the adjustment will be made through the following steps, then adjusted values will be written to the EEPROM. However, if SACD disc is not available, use the player with initial data, skipping the SACD adjustment. In this case, you can finish the adjustment if pressing the STOP button.

SACD Adjustment Steps

1. Sled Tilt Reset
2. Set Disc Type CD
3. LD ON
4. Spdl Start
5. Wait 1 sec
6. Focus Servo ON
7. Auto Track Offset Adjust
8. Tracking ON
9. Clva ON
10. Wait 1 sec
11. Sled On
12. Check CLV ON
13. Auto LFO Adjust
14. Auto Focus Offset Adjust
15. Auto Focus Gain Adjust
16. Auto Focus Offset Adjust
17. Eq Boost Adjust
18. Auto LFO Adjust
19. Auto Track Gain Adjust
20. All Servo Stop

6-5. DRIVE MANUAL OPERATION

On the Test Mode Menu screen, select 2, and the manual operation menu will be displayed. For the manual operation, each servo on/off control and adjustment can be executed manually.

```
### Drive Manual Operation ###

        Operation Menu
1. Disc Type
2. Servo Control
3. Track/Layer Jump
4. Manual Adjustment
5. Auto Adjustment
6. Memory Check

0. Disc Check Memory

                  Exit : Return
```

In using the manual operation menu, take care of the following points These commands do not provide protection, thus requiring correct operation. The sector address or time code field is displayed when a disc is loaded.

1. Set correctly the disc type to be used on the Disc Type screen. The disc type must be set after a disc is inserted. Be sure to close the disc lid.
   The set disc type is cleared when the tray is opened.
2. After power ON, if the Drive Manual Operation was selected, first perform “Reset SLED TILT” by opening 1. Disc Type screen.
3. In case of an alarm, immediately press the STOP button to stop the servo operation, and turn the power OFF.

Basic operation (controllable from front panel or remote commander)

POWER	Power OFF
STOP	Servo stop
RETURN	Return to Operation Menu or Test Mode Menu
NEXT , PREV	Transition between sub modes of menu
1 to 9 , 0	Selection of menu items
Cursor UP/DOWN	Increase/Decrease in manually adjusted value

0. Disc Check Memory

```
           Disc Check


1. SL Disc Check
2. CD Disc Check
3. DL Disc Check


0. Reset SLED TILT
```

On this screen, the mirror time is measured to judge the disc and it is written to the EEPROM. First load DVD SL disc and press 1, next load CD disc and press 2, and finally load DVD DL disc and press 3.
The adjustment must be executed more than once after default data were written. External vibration or shock to the player must not be given. Reference value for DVD is from 48 to 68, and for CD, from A0 to BF.
Check that the value of CD is larger than that of DVD.
When those values are beyond a range perform this adjustment again.
From this screen, you can go to another mode by pressing !NEXT! or !PREV! key, but you cannot enter this mode from another mode. You can enter this mode from the Operation Menu screen only.

1. Disc Type

```
      Disc Type
1. Disc Type Auto Check
2. DVD SL  12 cm
3. DVD DL  12 cm
4. CD      12 cm
5. SACD    12 cm
6. DVD SL  8 cm
7. DVD DL  8 cm
8. CD      8 cm
9. SACD    8 cm
0. Reset SLED TILT
                       EMG. 00
```

On this screen, select the disc type. To select the disc type, press the number of the loaded disc. The selected disc type is displayed at the bottom. Selecting 1 automatically selects and displays the disc type. In case of wrong display, retry “Disc Check Memory”.
Also, opening the tray causes the set disc type to be cleared. In this case, set the disc type again after loading.
In performing manual operation, the disc type must be set.
Once the disc type has been selected, the sector address or time code display field will appear as shown below. These values are displayed when PLL is locked.

```
           Disc Type
1. Disc Type Auto Check
2. DVD SL  12 cm
3. DVD DL  12 cm
4. CD      12 cm
5. SACD    12 cm
6. DVD SL  8 cm
7. DVD DL  8 cm
8. CD      8 cm
9. SACD    8 cm
0. Reset SLED TILT
           SA. - ST. - EMG. 00
DVD SL 12 cm
```

Display when DVD SL 12 cm disc was selected

```
           Disc Type
1. Disc Type Auto Check
2. DVD SL  12 cm
3. DVD DL  12 cm
4. CD      12 cm
5. SACD    12 cm
6. DVD SL  8 cm
7. DVD DL  8 cm
8. CD      8 cm
9. SACD    8 cm
0. Reset SLED TILT
         TC. - : - : - EMG. 00
CD 12 cm
```

Display when CD 12 cm disc was selected

0 Reset SLED TILT	Reset the Sled and Tilt to initial position.
1 Disk Type Check	Judge automatically the loaded disc. As the judged result is displayed at the bottom of screen, make sure that it is correct. If Disc Check Memory menu has not been executed after EEPROM default setting, the disc type cannot be judged. In this case, return to the initial menu and make a check for three types of discs (SL, DL, CD).
2 to 9	Select the loaded disc. The adjusted value is written to the address of selected disc. No further entry is necessary if 1 was selected.

2. Servo Control

```
         Servo Control
1. LD         off R. sled FWD
2. SP         off L. sled REV
3. Focus      off U. Tilt Up
4. TRK.       off D. TILT Down
5. Sled       off
6. CLVA       off
7. FCS. Sred off

0. Reset SLED TILT
           SA. - TI. - EMG. 00
DVD SL 12 cm
```

On this screen, the servo on/off control necessary for replay is executed. Normally, turn on each servo from 1 sequentially and when CLVA is turned on, the usual trace mode becomes active. In the trace mode, DVD sector address or CD time code is displayed. This is not displayed where the spindle is not locked.
The spindle could run overriding the control if the spindle system is faulty or RF is not present. In such a case, do not operate CLVA.

0	Reset SLED TILT	Reset the Sled and Tilt to initial position.
1	LD	Turn ON/OFF the laser.
2	SP	Turn ON/OFF the spindle.
3	Focus	Search the focus and turn on the focus.
4	TRK	Turn ON/OFF the tracking servo.
5	Sled	Turn ON/OFF the sled servo.
6	CLVA	Turn ON/OFF normal servo of spindle servo.
7	FCS. Srch	Apply same voltage as that of focus search to the focus drive to check the focus drive system.
→	Sled FWD	Move the sled outward. Perform this operation with the tracking servo turned off.
←	Sled REV	Move the sled inward. Perform this operation with the tracking servo turned off.

The following menus are normally not used.

3. Track/Layer Jump
4. Manual/Adjustment
5. Auto Adjustment

The persons who do not know well about these menus should not use them.

6. Memory Check

```
EEPROM DATA                 — —DL— —
             CD  SACD   SL  L0  L1
Focus Gain    xx  xx    xx  xx  xx
TRK. Gain     xx  xx    xx  xx  xx
Focus Offset xx  xx    xx  xx  xx
TRK. Offset  xx  xx    xx  xx  xx
L.F. Offset  xx  xx    xx  xx  xx
Analog FRSW  xx  xx    xx  xx  xx
PLL DAC Gain xx  xx    xx  xx  xx
EQ Boost      xx  xx    xx  xx  xx
Jitter        xx  xx    xx  xx  xx
Mirror Time  xx  xx    xx
-            CLEAR : Default Set
```

This screen displays current servo adjusted data stored in the EEPROM. Though adjusted data can be initialized with the CLEAR key, they cannot be restored after initialization.
So, before clearing, make a note of the adjusted data. For reference, the drive has been designed so that the gain center value is 20 and offset value is 80 except the Mirror Time. Other values will be in a range of 10 to 80. If extreme value such as 00 or FF is set, adjustment will be faulty. In such a case, check for disc scratch or cable disconnection, then perform adjustment again.

6-6. EVR Adjustment

The picture display adjustment of both NTSC and PAL can be performed by the MANUAL adjustment using the menu display of the test mode.
Press 3 of the remote controller. The following check menu appears.

```
         ###   EVR   ###
         #  Main Menu  #
1. NTSC      Adjustment
2. PAL       Adjustment
3. NTSC      Default Set
4. PAL       Default Set
5. Copy      NTSC → PAL
6. Copy      PAL → NTSC
7. PUMP
8. Change to NTSC
9. Change to PAL
                  Exit : RETURN
```

1 NTSC Adjustment

The respective EVR adjustment channels of the NTSC screen can be set by the MANUAL adjustment.
Press 1 of the remote controller. The following sub-menu appears.

```
         ###   EVR   ###
      #  NTSC Adjustment  #
0. RGB AMP     1  ch
1. BRIGHT      2  ch
2. GAMMA0      10 ch
3. GAMMA1      11 ch
4. CONTRAST    3  ch
5. COM AMP     4  ch
6. SUB_B       8  ch
7. SUB_R       9  ch
8. (Next)
                  Exit : RETURN
```

1 -1. Setting the respective channels

Press the desired key (0 for an example) of the remote controller from the sub-menu display.
A binary number appears to the right of the selected channel on the sub-menu as shown.

```
         ###   EVR   ###
      #  NTSC Adjustment  #
0. RGB AMP     1  ch        60
1. BRIGHT      2  ch        ↑
2. GAMMA0      10 ch     Flashes
3. GAMMA1      11 ch
4. CONTRAST    3  ch
5. COM AMP     4  ch
6. SUB_B       8  ch
7. SUB_R       9  ch
8. (Next)
                  Exit : RETURN
```

- * Pressing the UP or DOWN key of the cursor key of the remote control increments or decrements the binary number. At the same time, value of the binary number is written in the E^{2}PROM of the EVR IC.
- * When the EVR value of each channel is changed, the change of the setup can be confirmed on the display as follows. Set the LINE selector switch to the LINE IN position. Connect any video signal and change the setup value. Change of the setup can be confirmed on the display.
- * When you want to change the channel to be adjusted, press the RIGHT or LEFT key of the cursor key. You can select the next channel or previous channel. When you want to select the desired channel, press the numeric key. You can select the channel of the number that you have pressed.
- * Pressing 8 (next) on the sub-menu advances the display to the display of the next adjustment.

```
        ###   EVR   ###
     #  NTSC Adjustment  #
0. FLICKER      7  ch
1. TINT         6  ch
2. SHARPNESS   12 ch
3. COLOR        5  ch
4. (Prev)

                  Exit : RETURN
```

2 PAL Adjustment

The PAL adjustment can be performed in the same manner as in the previous section " 1 NTSC Adjustment". However, the following display of the PAL sub-menu is different from that of NTSC.

```
        ###   EVR   ###
      #  PAL Adjustment  #
0. FLICKER      7  ch
1. NOLSE        6  ch
2. SHARPNESS   12 ch
3. COLOR        5  ch
4. (Prev)

                  Exit : RETURN
```

This item is different from the display of the NTSC adjustment.

3 NTSC Default Setting

4 PAL Default Setting

The default values of the EVR can be written into the E^{2}PROM using the EVR main menu.

Press either 3 or 4 of the remote controller. The following display appears and a question is asked if you want to set the default value into E^{2}PROM or not.

Press ENTER to set the default value. Press the STOP key not to set.

```
        ###   EVR   ###
     #  NTSC Default Set  #

Default Set?
Yes : ENTER / NO : STOP


                   Exit : RETURN
```

5 Copy NTSC → PAL

6 Copy PAL → NTSC

Press either 5 or 6 of the remote controller. The following display appears and a question is asked if you want to copy the setup values that are stored in the NTSC (or PAL) EVR to the address of the E^{2}PROM where the PAL (or NTSC) setup values are stored at present.

Press ENTER to copy. Press the STOP key not to copy.

```
        ###   EVR   ###
     #  Copy NTSC → PAL  #

Copy?
Yes : ENTER / NO : STOP


                   Exit : RETURN
```

7 DUMP

Pressing the 7 key on the remote controller from the EVR main menu shows the EVR values of both NTSC and PAL.

```
        ###   EVR   ###
     #  EVR MEMORY DUMP  #
                    NTSC  PAL
RGB AMP      1 ch    60    60
BRIGHT       2 ch    CF    CF
CONTRAST     3 ch    71    71
COM AMP      4 ch    62    62
COLOR        5 ch    AO    AO
TINT/NOISE   6 ch    A3    88
FLICKER      7 ch    96    96
SUB_B        8 ch    6C    6C
               Turn Page : LR
               Exit : RETURN
```

The display pages can be scrolled by pressed the RIGHT or LEFT cursor key.

The next page will be as follows.

```
        ###   EVR   ###
     #  EVR MEMORY DUMP  #
                    NTSC  PAL
SUB_R        9 ch    89    89
GAMMA0      10ch     36    36
GAMMA1      11ch     6E    6E
SHARPNESS   12ch     87    87




               Turn Page : LR
               Exit : RETURN
```

8 Change to NTSC

9 Change to PAL

Pressing the 8 numeric key of the remote controller changes the display to the NTSC EVR values Pressing the 9 numeric key of the remote controller changes the display to the PAL EVR values.

Press RETURN to exit the menu.

6-7. EMERGENCY HISTORY

```
      ### MEG. History  ###

Laser Hours    CD  xxxxxxxh
               DVD xxxxxxxh

1.  00  00 00 00 00 00 00 00
    00  00 00 00 00 00 00 00

2.  00  00 00 00 00 00 00 00
    00  00 00 00 00 00 00 00

Select : 1-9   Scroll : UP/DOWN
(1:Last EMG.)  Exit : Return
```

On the Test Mode Menu screen, selecting 4 displays the information such as servo emergency history. The history information from last 1 up to 10 can be scrolled with ↑ key or ↓ key. Also, specific information can be displayed by directly entering that number with ten keys.

The upper two lines display the laser ON total hours. Data below minutes are omitted.

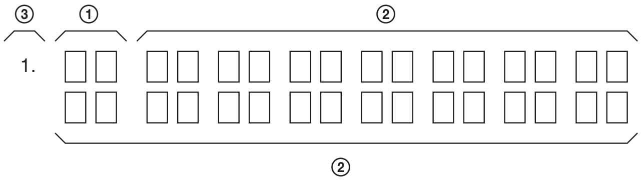
Clearing History Information

◎ Clearing laser hours
Press DISPLAY and CLEAR keys in this order.
Both CD and DVD data are cleared.

◎ Clearing emergency history
Press TITLE and CLEAR keys in this order.

◎ Initializing set up data
Press DVD and CLEAR keys in this order.
The data have been initialized when"Set Up Initialized" hmessage is displayed. The EMG. History screen will be restored soon.

How to see Emergency History



①: Emergency Code
②: Don't Care
These codes are used for verification of software designating.
③: Historical order 1 to 9.

Emergency Codes List

10: Communication to IC801 (MB-90 board) failed.
11: Each servo for focus, tracking, and spindle is unlocked.
12: Communication to EEPROM, IC001 (MB-90 board) failed.
13: Writing of hours meter data to EEPROM, IC001 (MB-90 board) failed.
14: Communication to Servo DSP IC952 (MB-90 board) failed, or Servo DSP is faulty.
20: Initialization of tilt servo and sled servo failed. They are not placed in the initial position.
21: Tilt servo operation error
24: Syscon made a request to move the sled servo to wrong position.
30: Tracking balance adjustment error
31: Tracking gain adjustment error
32: Focus balance adjustment error
33: Focus bias adjustment error
35: Tilt servo adjustment error
36: RF equalizer adjustment error
37: RF group delay adjustment error
38: Jitter value after adaptive servo operation is too large.
40: Focus servo does not operate.
41: With a dual layer (DL) disc, focus jump failed.
50 : CLV (spindle) servo does not operate.
51: Spindle does not stop.
60: With a DVD disc, Syscon made a request to seek nonexistent address.
61: With a CD disc, Syscon made a request to seek nonexistent address.
62: With a CD disc, Syscon made a request to seek nonexistent track No. and index No.
63: With a DVD disc, seeking of target address failed.
64: With a CD disc, seeking of target address failed.
65: With a CD disc, seeking of target index failed.
70: With a DVD disc, physical information data could not be read.
71: With a CD disc, TOC data could not be read.
80: Disc type judgment failed.
81: As disc type judgment failed, retry was repeated.
82: As disc type judgment failed, a measurement error occurred.
83: Disc type could not be judged within the specified time.
84: Illegal command code was received from Syscon.
85: Illegal command was received from Syscon.

6-8. VERSION INFORMATION

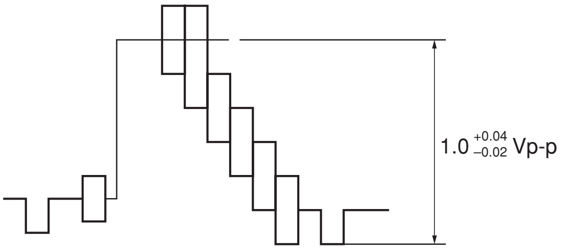
```
   ## Version Information ##

IF con.   Ver.x.  xxx (xxx)
          Group    00

SYScon.   Ver.x.  xxx (xxx)
          Model    xx
          Region   ux
Servo DSP.Ver.1.  xxxx


Exit : Return
```

On the Test Mode Menu screen, selecting 5 displays the ROM version and region code.
The parenthesized hexadecimal number in version field is checksum value of ROM.

6-9. VIDEO LEVEL ADJUSTMENT

On the Test Mode Menu screen, selecting 6 displays color bars for video level adjustment. During display of color bars, OSD disappears but the menu screen will be restored if pressing any key.

Measuring point : J351 (Video out)
(terminat at 75Ω)
Measuring instrument : Oscilloscope
Adjustment device : RV651 on MB-90 board
Specified value : 1.00 $^{+0.04}_{-0.02}$ Vp-p



6-10. SELF-DIAGNOSIS OF IF CONTROLLER

1. IF Controller Test Mode

The IF controller test mode means the self-diagnosis mode of the IF controller. The test mode can diagnose the various blocks that are controlled by the IF controller.
The IF controller runs in accordance with the instructions of the system controller IC as it establishes the serial communication with the system controller IC to receive instructions. However, the IF controller runs by itself without receiving instructions from the system controller IC in the test mode.
The following functions can be checked using the test mode.

1. Button function
2. Remote control signal reception function
3. Serial communication between system controller IC and IF controller
4. LCD lighting check
5. Power control check
6. Charge control check

In the test mode, the machine performs the same operations as the normal state except the voltage monitoring, communication monitoring, LCD display, forced output of the test mode, TFT open monitoring and charge control.

1. The sub-routine to monitor + 3.3 V (PCONT) on the MB board is not included in the POWER ON sequence.
2. The timer to monitor the serial communication with the system controller IC is not included. Even if the communication with the system controller IC is not normal, the STANDBY display does not appear.
3. Indication on the LCD display (Indication on the LCD display normally appears according to the instructions from the system controller IC.)
4. The status that is specified by the test mode items No. 6, No. 7, No. 10 to No. 17 and N. 28 to No. 29 are kept maintained until the machine exits the test mode or the specific status is switched in test mode.
5. During the test mode, the TFT open monitoring input is ignored and is fixed to the open state.
6. The charge control that is specified by the test mode items No. 30 to No. 32. (Various protection routines are used normally.)

2. How To Enter The IF Controller Test Mode

In the STANDBY state, while pressing the STOP key, press the RETURN key and the DISPLAY MODE key at the same time on the remote control unit. Then the machine enters the test mode.
When the machine enters the test mode, the LCD starts the automatic display sequence.

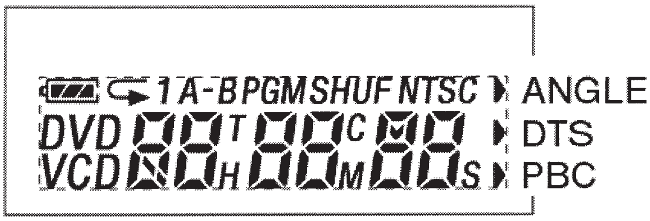
1. Backlight of the LCD turns on and all segments turns on for about 5 seconds.
2. Trial production model name appears. (The trial production model name is the representative model name of the series.)
   Display
   1020 – Model name DVP-FX1
3. Program version display
   1000 → Ver 1.00
4. Date of the last update of the program appears.
   Example: 000225
5. Returns to the all segments lighting. (Steps 1 to 4 are repeated.)

3. How To Exit The Test Mode

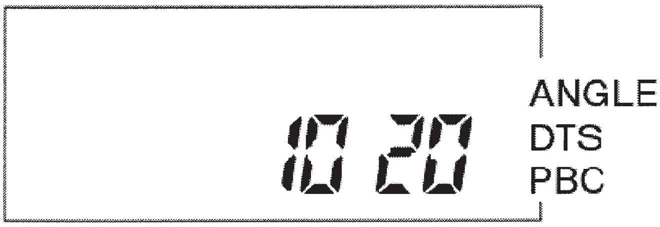
Press the 0 key and the ENTER key at the same time on the remote control unit. The test mode indication on the LCD disappears and the machine returns to the normal operating state.

Automatic indication sequence of LCD

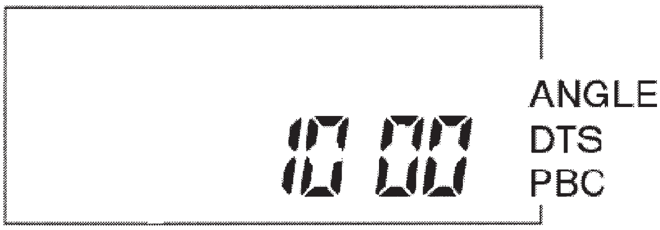
① All segments turn on (5 seconds)



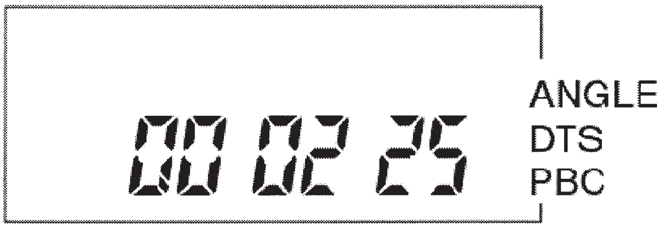
② Trial production model name appears. (2 seconds)



③ Program version display (2 seconds)



④ Date of the last update of the program appears. (2 seconds)



4. Description of IF Controller Function Check Mode

All functions can be operated by pressing the numeric key on the remote controller.

Example) Numeric key + ENTER key

0. Test Mode Cancel

Command : 00
Operation : Test mode cancel and the status that is selected and outputted during the test mode are cancelled.
LCD display : Normal DVD display

1. ROM version check

Command : 01
Operation : ROM version appears.
LCD display : "1000"

2. Model identification display

Command : 02
Operation : The identified model appears.
LCD display : "1020" or "1030"

3. Destination bit display

Command : 03
Operation : The identified XPALSET and US bit appear.
LCD display : "nt us" or "nt –" or "PAL us" or "PAL –"

4. All segments of LCD turn on

Command : 04
Operation : All segments of LCD turn on.
LCD display : All segments of LCD turn on.

5. LCD sequential display

Command : 05
Operation : Segments of LCD are sequentially turned on.
LCD display : Sequential display

6. LCD backlight OFF forced output

Command : 06
Operation : LCD backlight OFF
This state is maintained once this operation is specified.
LCD display : "06 – OFF"

7. LCD backlight ON forced output

Command : 07
Operation : LCD backlight ON
This state is maintained once this operation is specified.
LCD display : "07 – on"

8. KEY check

Command : 08

Operation : The LCD segments as many as the number of the key switches are turned on. Every pressing of the key switch turns off the corresponding segment. The test ends in success when all segments are turned off finally. If any key switches have already been pressed before the machine enters this test mode, the corresponding segment flashes.

LCD display : "05 – XX". XX means the key No.

	Corresponding segment	
STOP key	"DVD"	
PAUSE key	"CD"	
NEXT key	"V"	
PREVIOUS key	"BATTERY FRAME"	
TITLE key	"BATTERY 1"	
DVD MENU key	"BATTERY 2"	
RETURN key	"BATTERY 3"	
DISPLAY key	"REPEAT"	
LEFT key	"1"	
DOWN key	"A"	
ENTER key	"–"	
UP key	"B"	
RIGHT key	"PGM"	
PLAY key	"SHUFFLE"	
ASPECT switch	"NTSC"	DPX 1020 only

9. Operation check of the slide switch and detection switch

Command : 09

Operation : The input state of the respective switches is displayed on LCD.

LCD display : "abcdef"

a : DOOR switch 1 check: "0" (open state) or "1" (close state)
b : DOOR switch 2 check: "0" (open state) or "1" (close state)
c : SRS switch check: "0" (SRS ON state) or "1" (SRS OFF state)
d : HOLD switch check: "0" (HOLD ON state) or "1" (HOLD OFF state)
e : VIDEO switch check: "0" (LINE OUT state) or "1" (LINE IN state)
f : TFTOPEN switch check: "0" (open state) or "1" (close state)

10. POWER_SAVE TFT inverter low output

Command : 10

Operation : Low output to panel backlight
This state is maintained once this operation is specified.

LCD display : "10 – Lo"

11. POWER_SAVE TFT inverter high output

Command : 11

Operation : High output to panel backlight
This state is maintained once this operation is specified.

LCD display : "11 – Hi"

12. Forced OFF output to TFT LCD INVPCON

Command : 12

Operation : The TFT LCD inverter is set to the forced OFF state.
This state is maintained once this operation is specified.

LCD display: "12 – OFF"

13. Forced ON output to TFT LCD INVPCON

Command : 13

Operation : The TFT LCD inverter is set to the forced ON state.
This state is maintained once this operation is specified.

LCD display : "13 – on"

14. Forced OFF output to TFT LCD power supply TFTPCON

Command : 14

Operation : The TFT LCD power supply TFTPCON is set to the forced OFF state.
This state is maintained once this operation is specified.

LCD display : "14 – OFF"

15. Forced ON output to TFT LCD power supply TFTPCON

Command : 15

Operation : The TFT LCD power supply TFTPCON is set to the forced ON state.
This state is maintained once this operation is specified.

LCD display : "15 – on"

16. TFT LCD panel forced PAL

Command : 16

Operation : The TFT LCD panel is forced to the PAL mode display.
This state is maintained once this operation is specified.

LCD display : "16 – Pal"

17. TFT LCD panel forced NTSC

Command : 17

Operation : The TFT LCD panel is forced to the NTSC mode display.
This state is maintained once this operation is specified.

LCD display : "17ntSc"

18. TEMP input voltage display

Command : 18

Operation : The TEMP input voltage is displayed on LCD.
* Valid voltage to the TEMP input
1.65 V (200 h) ≦ TEMPMNT

LCD display : "18 – XXX". XXX is the input voltage.
* Display is around 356 under normal temperature.

19. Sleep mode test

Command : 19

Operation : The machine enters the sleep mode immediately after the forced POWER OFF processing is complete.

LCD display: Non

20. Monitoring communication with system controller

Command : 20

Operation : The communication status with system controller is displayed on LCD.

LCD display : "20 — " When communication error occurs.
LCD display : "20 – Sio" When communication is under way.

21. ROM creation date display

Command : 21

Operation : Date of the ifcon ROM creation is displayed on LCD.

LCD display : "990901"

22. Auto LCD test display

Command : 22

Operation : The following operation is repeated.
LCD all segments turn on (5 seconds) All segments turn on (5 seconds) → Model name display (2 seconds) → ROM version display (2 seconds) → ROM creation date display (2 seconds).

LCD display : As described above.

23. Initialization of the outputs that are set by the test mode

Command : 23

Operation : The forced output that is specified by the test mode item No. 6, No. 7, No. 10 to No. 7 and No. 30 to No. 32 are initialized.

LCD display : "23 – ini"

* The TFT PANEL is set to the default state from the NTSC/PAL setting.
* POWER_SAVE TFT inverter high output
* Forced ON output to TFT LCD INVPCON
* Forced ON output to TFT LCD power supply TFTPCON
* LCD backlight check forced ON output
* CHGCNT forced OFF output, LBCHG forced ON output

24. SW 3.3 V check

Command : 24

Operation : The 3.3 V input voltage is displayed on LCD.
* Valid range during POWER ON
2.02 V (272h) ≦ PON_CHK ≦ 2.42 V (2FDh)
* Valid range during STAND-BY
PON_CHK ≦ 0.1 V (01Fh)

LCD display : "24 – XXX". XXX is the input voltage.
* Reference value : This value is around 2C6.

25. DC_OUT check

Command : 25

Operation : The DC_OUT voltage is displayed on LCD.
* Valid voltage when the DC OUT JACK is connected.
1.28 V (18Dh) ≦ DC OUT MNT

LCD display : "25 – XXX". XXX is the input voltage.
* Reference value : This value is around 1A8 to 198.

26. BATT-MNT check

Command : 26

Operation : The BATT voltage is displayed on LCD.
* Valid voltage when operated on battery.
1.43 V (1BDh) ≦ BATTMNT < 2.03 V (276h)

LCD display : "26 – XXX". XXX is the input voltage.
* Reference value : This value is around 275 to 1BD.

27. DC_IN check

Command : 27

Operation : The DC_IN voltage is displayed on LCD.
* Valid voltage when operated on DC.
1.96 V (261h) ≦ VCCMNT < 2.65 V (335h)

LCD display : "27 – XXX". XXX is the input voltage.
* Reference value : This value is around 261 to 334.

28. TFT LCD EVR adjustment (NTSC setting)

Command : 28

Operation : Even when the LINE IN/OUT is switched by the VIDEO switch for the TFT LCD monitor EVR adjustment, the DVDPCON is maintained in the ON state and the V_IOCNT output is switched so that the LINE OUT picture or the LINE IN picture is output to the TFT LCD.
When the machine enters this mode, the state that is specified by the test mode is initialized.
* XPAL and EVR setting
During LINE IN mode
XPAL : NTSC setting
EVR : NTSC setting
During LINE OUT mode
XPAL : NTSC setting
EVR : NTSC setting

LCD display : "28-tFt" + NTSC segment display

29. TFT LCD EVR adjustment (PAL setting)

Command : 29

Operation : Even when the LINE IN/OUT is switched by the VIDEO switch for the TFT LCD monitor EVR adjustment, the DVDPCON is maintained in the ON state and the V_IOCNT output is switched so that the LINE OUT picture or the LINE IN picture is output to the TFT LCD.
When the machine enters this mode, the state that is specified by the test mode is initialized.
* XPAL and EVR setting
During LINE IN mode
XPAL : PAL setting
EVR : PAL setting
During LINE OUT mode (The XPAL is set to the NTSC setting in order to display the SYScon diagnosis display on the TFT LCD.)
XPAL : NTSC setting
EVR : PAL setting

LCD display : "29-tFt" + NTSC segment display

30. Forced CHGCNT ON & LBCHG OFF

Command : 30

Operation : The CHGCNT is forced to ON and the LBCHG is forced to OFF. (The charging processing is interrupted.)
When charging is in progress in the STAND–BY mode, the charging processing is interrupted.
When charging is in progress in the POWER ON mode, the machine enters the forced STAND-BY mode.
When 10 minutes have elapsed after the forced charge is set to ON, the forced charging is cancelled.
When charging is started by any commands other than this command, the machine follows their outputs after charging is started once.

LCD display : "30 – on"

31. CHGCNT OFF & LBCHG ON

Command : 31

Operation : The CHGCNT is forced to OFF and the LBCHG is forced to ON.
When charging is in progress in the STAND-BY mode, the charging processing is interrupted.
When charging is in progress in the POWER ON mode, the machine enters the forced STAND-BY mode.
When charging is started by any commands other than this command, the machine follows their outputs after charging is started once.

LCD display : "31 – OFF"

32. Forced CHGCNT ON & LBCHG ON (State of forced charging the low voltage battery)

Command : 32

Operation : The CHGCNT is forced to ON and the LBCHG is forced to ON. (The charging processing is interrupted.)
When charging is in progress in the STAND-BY mode, the charging processing is interrupted.
When charging is in progress in the POWER ON mode, the machine enters the forced STAND-BY mode.
When 10 minutes have elapsed after the forced charge is set to ON, the forced charging is cancelled.
When charging is started by any commands other than this command, the machine follows their outputs after charging is started once.

LCD display : "32 – on"

33. (intentionally left blank)

34. Forced STAND-BY state setting

Command : 34

Operation : When charging is in progress in the POWER ON mode, the machine enters the forced STAND-BY mode.
The charging processing is interrupted and the charging is re-started.

LCD display : "34 – St"

35. (intentionally left blank)

36. VCCMNT voltage during charging display

Command : 36

Operation : The VCCMNT voltage that is inputted by the charging sequence is displayed.
* Valid voltage of VCCMNT
1.96 V (261h) ≦ VCCMNT < 2.65 V (335h)

LCD display : "36 – XXX". XXX is the input voltage.
* Reference value : This value is around 261 to 334.

37. CHGMNT voltage during charging display (when CHGMNT = ON)

Command : 37

Operation : The CHGMNT voltage that is inputted by the charging sequence is displayed. (Voltage when CHGMNT = ON)
* Valid voltage of BATTMTN
5.0 V (156h) ≦ BATTMTN < 1.90 V (24Dh)

LCD display : "37 – XXX". XXX is the input voltage.
* Reference value : This value is around 156 to 24C.

38. CHGMNT voltage during charging display (when CHGMNT = OFF)

Command : 38

Operation : The CHGMNT voltage that is inputted by the charging sequence is displayed. (Voltage when CHGMNT = OFF)
* Valid voltage of BATTMTN
BATTMTN < 1.90 V (24Dh)

LCD display : "38 – XXX". XXX is the input voltage.
* Reference value: This value is around 0 to 24C.

39. (intentionally left blank)

40. Charging status display

Command : 40

Operation : Charging status display

LCD display : "40 – XXX". XXX is the charging status data.
* Contents of the charging status display
00h : State waiting for starting of charging.
01h : Continuous charging is in progress.
02h : Full charged judgment processing is in progress.
03h : Supplementary charging of 1 hour is in progress.
04h : Normal charging is complete.
05h : The 1 hour timer has ended.
06h : The 12 hour timer has ended.
07h : Charging the low voltage battery is in progress during the continuous charging.

10h : Charging is terminated due to the charging condition error.
11h : Charging is terminated due to the abnormal voltage during continuous charging.
12h : Charging is terminated due to the abnormal voltage when full charged condition is detected.
13h : Charging is terminated due to the abnormal voltage during the supplementary charging. (Or normal end.)
14h : Charging is terminated due to abnormal voltage of 8.6 V or more of battery voltage when fully charged.
15h : Charging is terminated due to abnormal voltage of 5.0 V or less battery voltage when fully charged.

41. BATT switch check and BATTYPE check

Command : 41

LCD display : “41 – m n”

m : BATT switch = “1” (Already connected state) or “0” (Not connected yet state) display.

m : BATTYPE = “1” (Lithium-ion battery) or “0” (Other batteries than the lithium-ion battery) display.

MEMO

SECTION 7
ELECTRICAL ADJUSTMENT

In making adjustment, refer to 6-4. Adjustment Related Parts Arrangement.

This section describes procedures and instructions necessary for adjusting electrical circuits in this set.

Instruments required

1) Color monitor TV
2) Oscilloscope 1 or 2 phenomena, band width over 100 MHz, with delay mode
3) Frequency counter (over 8 digits)
4) Digital voltmeter
5) Remote controller for adjustment
   RMT-D100E (1-475-086-31) or
   RMT-D101J (1-475-219-11) (1-475-219-21)
6) DVD standard disk
   HCX510
   HCX511
7) Extension Cable
   (J-6090-101-A)

7-1. POWER SUPPLY BLOCK (TP-61 Board)

1. Power Supply Check

Mode	E-E
Instrument	Digital voltmeter
13 V Check	
Instrument	JL1103
Specifications	13 V
REG 7.5 V Check	
Instrument	JL1104
Specifications	7.5 V ± 0.1 V
−5 V Check	
Instrument	JL1106
Specifications	−5.0 V ± 0.1 V
−12 V Check	
Instrument	JL1107
Specifications	-12.0 V ± 0.1 V

Checking method

1) Input 10 Vdc in De IN and confirm that each voltage satisfies the specifications.

2. 5V Power Supply Adjustment (TP-61 Board)

Mode	E-5
Measurement Point	JL1105
Instrument	Digital voltmeter
Adjustment element	RV1101
Specifications	5.05 V ± 0.01 V

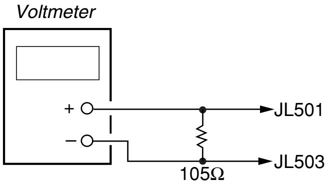
Adjustment method

1) Input 10 Vdc in DC IN.
2) Connect the digital voltmeter to JL1105.
3) Adjust RV1101 to attain 5.05 ± 0.01 V.

3. Charge Voltage Adjustment (MB-90 Board)

Mode	CHG "30" is forced to be set in test mode
Measurement Point	Between JL501 ⊕ and JL503 ⊖
Instrument	Digital voltmeter
Adjustment element	RV501
Specifications	8.43 V ± 0.05 V

Connection



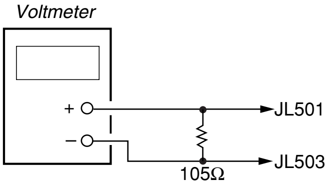
Adjustment method

1) Input 10 Vdc in DC IN.
2) Adjust RV501 to attain 8.43 V ± 0.05 V.

4. Over Discharge Battery Protective Circuit Check (MB-90 Board)

Mode	"32" → "31" in test mode (charge operation OFF)
Measurement Point	Between JL501 ⊕ and JL503 ⊖
Instrument	Digital voltmeter
Specifications	7.0 V ± 0.5 V

Connection



Checking method

1) Confirm that the voltage between JL501 ⊕ and JL503 ⊖ is 7.0 ± 0.5 V.

7-2. SYSTEM CONTROL ADJUSTMENT (TP-61 Board)

1. Free Run Level Sync Frequency (or 19.98 MHz) Adjustment (TP-61 board)

Purpose

This is the reference clock for the MPEG system. If this adjustment is not performed, an error may occur during lock check.

Mode	EE
Measurement Point	JL1302 (JL1301)
Instrument	Frequency counter
Adjustment element	RV1302
Specifications	15.73 V ± 0.6 KHz (PLL: 19.98 MHz)

Adjustment method

1) Connect the frequency counter to JL1302.
2) Adjust RV1302 to attain 15.73 V ± 0.6 KHz.

2. Display Position Adjustment (TP-61 Board)

Mode	Playback
Signal	Monoscope
Instrument	LCD or monitor
Adjustment element	RV1301
Specifications	Display should be on the center.

Adjustment method

1) Play back the monoscope of TEST DISK HLK510.
2) Adjust RV1301 so that the image is on the center of the LCD or monitor.

7-3. VIDEO SYSTEM ADJUSTMENT

1. Video Level Adjustment (MB-90 Board)

Purpose

This adjustment is made to satisfy the standard, and if not adjusted correctly, the brightness will be too large or small.

Mode	Test mode "Video level Adjustment"
Signal	Color bars (100%)
Measurement point	J351 (terminated at 75Ω)
Instrument	Oscilloscope
Adjustment element	RV651
Specifications	$1.00 ^{+0.04}_{-0.02}$ Vp-p

Checking method

1) In the test mode initial menu "Video Level Adjustment", set so that internal color bars are generated.
2) Adjust RV651 to attain $1.00 ^{+0.04}_{-0.02}$ Vp-p.

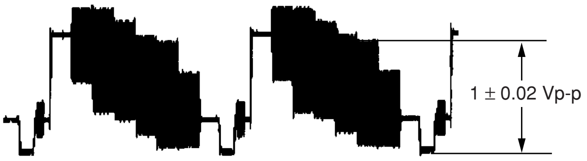


Fig. 7-1

2. S-terminal Y Output Check (MB-90 Board)

Purpose

This checks S-terminal video output Y. If it is incorrect, correct brightness will not be attained when connected to, for instance, projector of the S-terminal input.

Mode	TEST DISK HLX510 Title 2
Signal	Color bars
Measurement point	J352 S-terminal Y output (terminated at 75Ω)
Instrument	Oscilloscope
Specifications	1.00 ± 0.05 Vp-p

Checking method

1) Play back TEST DISK HLK510 Title2.
2) Confirm that the S-Y level is 1.00 ± 0.05 Vp-p.

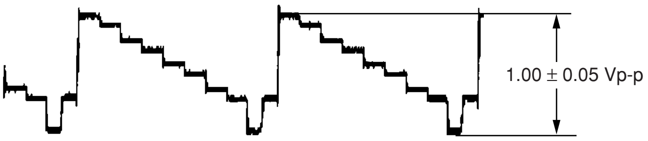


Fig. 7-2

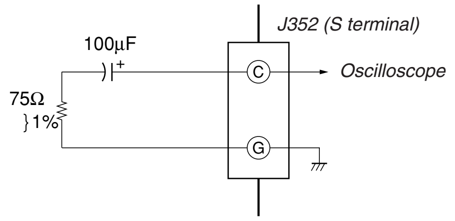
3. S-terminal Chroma Output Check (MB-90 Board)

Purpose

This adjustment is made to satisfy the standard, and if not adjusted correctly, the brightness will be too large or small.

Mode	TEST DISK HLK510 Title2 playback
Signal	Color bars
Measurement point	J352 S-terminal C output
Instrument	Oscilloscope
Specifications	286 ± 30 mVp-p (NTSC) 300 ± 30 mVp-p (PAL)

Connection


J352 (S terminal)
100μF
+
C
Oscilloscope
75Ω
}1%
G

Checking method

1) Play back TEST DISK HLX510 Title2.
2) Confirm that the S-C burst is 286 ± 30 mVp-p.

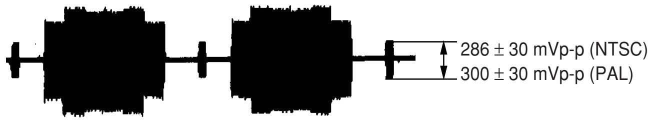


Fig. 7-3

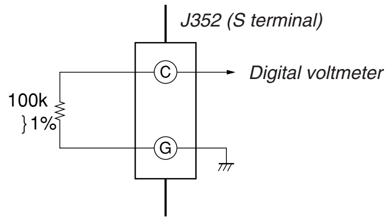
4. S-terminal Chroma DC Check (MB-90 Board)

Purpose

This check signals for S-terminal compatible TV. If they are not correct, the TV will not switch automatically to letter box mode, etc.

Mode	TEST DISK HLK510 Title5 playback
Signal	
Measurement point	J352 S-terminal C output (terminated at 100kΩ)
Instrument	Digital voltmeter
Specifications	$5.0^{+0}_{-1.5}$ Vdc

Connection

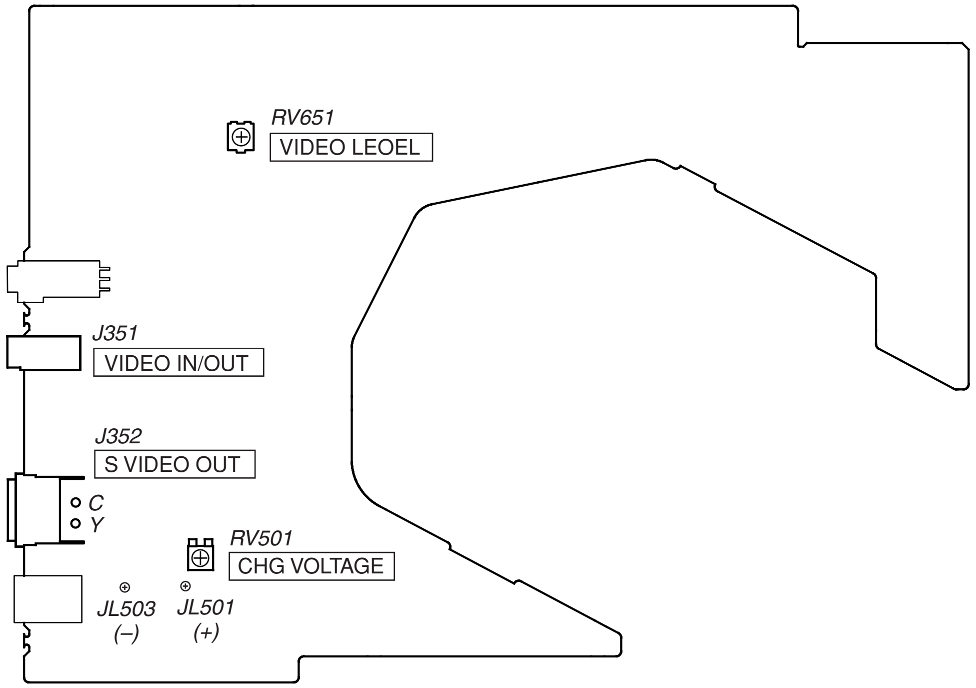

J352 (S terminal)
C
Digital voltmeter
100k
}1%
G

Checking method

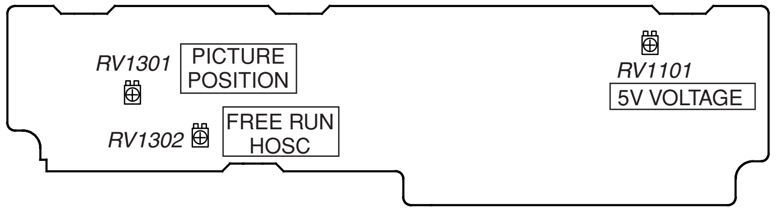
1) Play back TEST DISK HLK510 Title5.
2) Confirm that the C output of the J352 S-terminal is $5.0^{+0}_{-1.5}$ Vdc.

7-4. ARRANGEMENT DIAGRAM FOR ADJUSTMENT PARTS

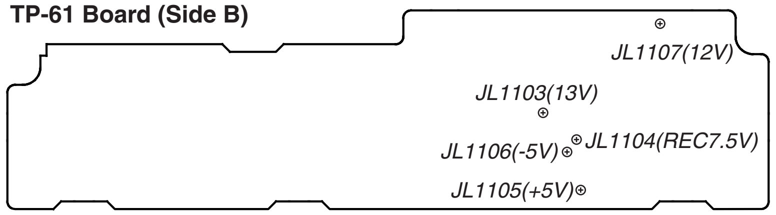
MB-98 Board (Side A)


RV651
VIDEO LEOEL
J351
VIDEO IN/OUT
J352
S VIDEO OUT
C
Y
RV501
CHG VOLTAGE
JL503
(–)
JL501
(+)

TP-61 Board (Side A)


RV1301
PICTURE POSITION
RV1302
FREE RUN HOSC
RV1101
5V VOLTAGE

TP-61 Board (Side B)


JL1107(12V)
JL1103(13V)
JL1106(-5V)
JL1104(REC7.5V)
JL1105(+5V)

MEMO

SECTION 8
REPAIR PARTS LIST

8-1. EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation

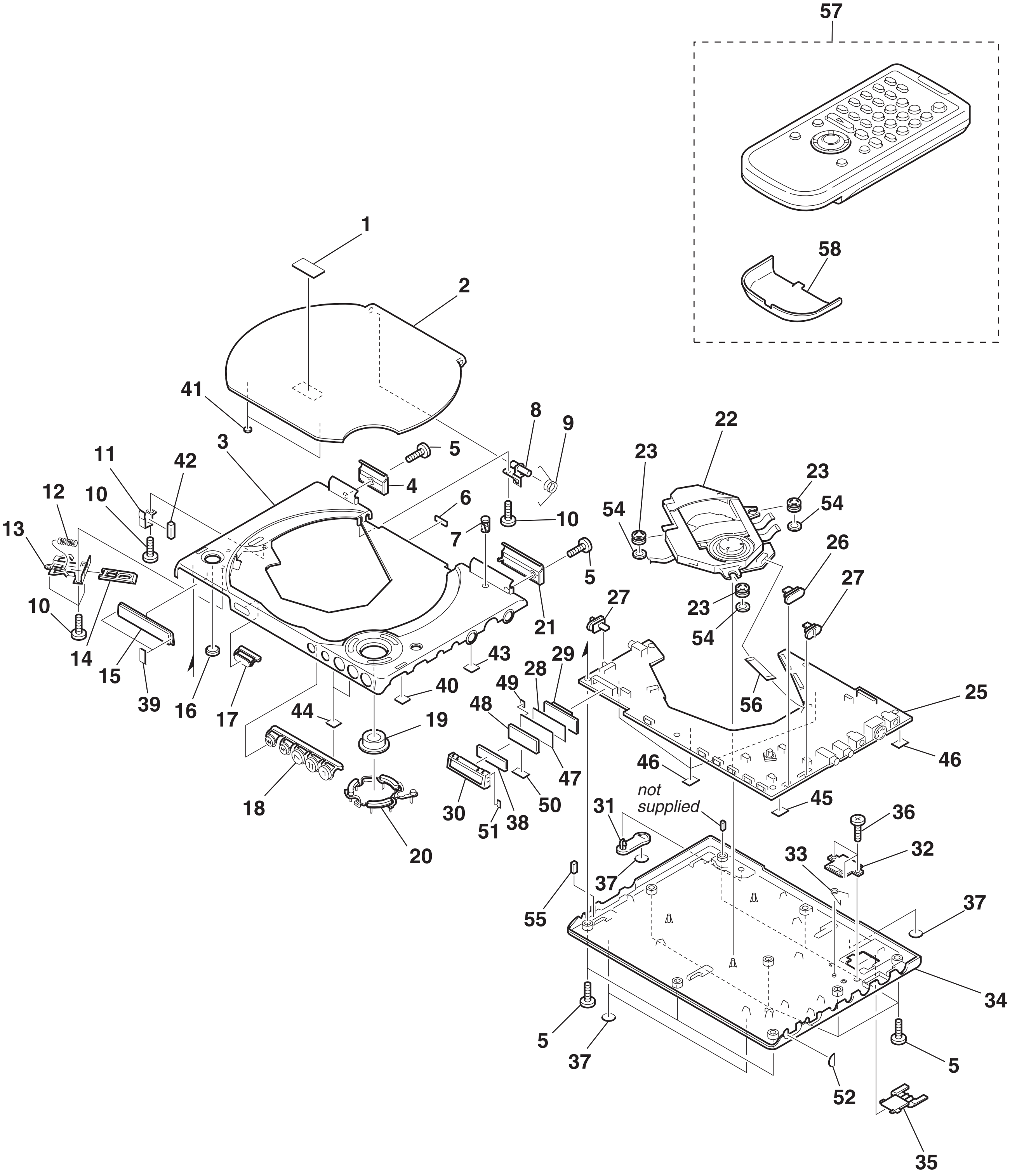
CND	: Canadian model
HK	: Hong Kong model
CN	: Chinese model
AUS	: Australian model

The components identified by mark ⚠or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

以阴影和⚠标志来识别的零部件在安全方面具有关键性。因此只能以规定号码的零部件来更换。

8-1-1. MAIN SECTION (FX1)


57
58
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2
41
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9
22
3
11
42
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46
47
18
30
50
45
51
38
31
not
supplied
36
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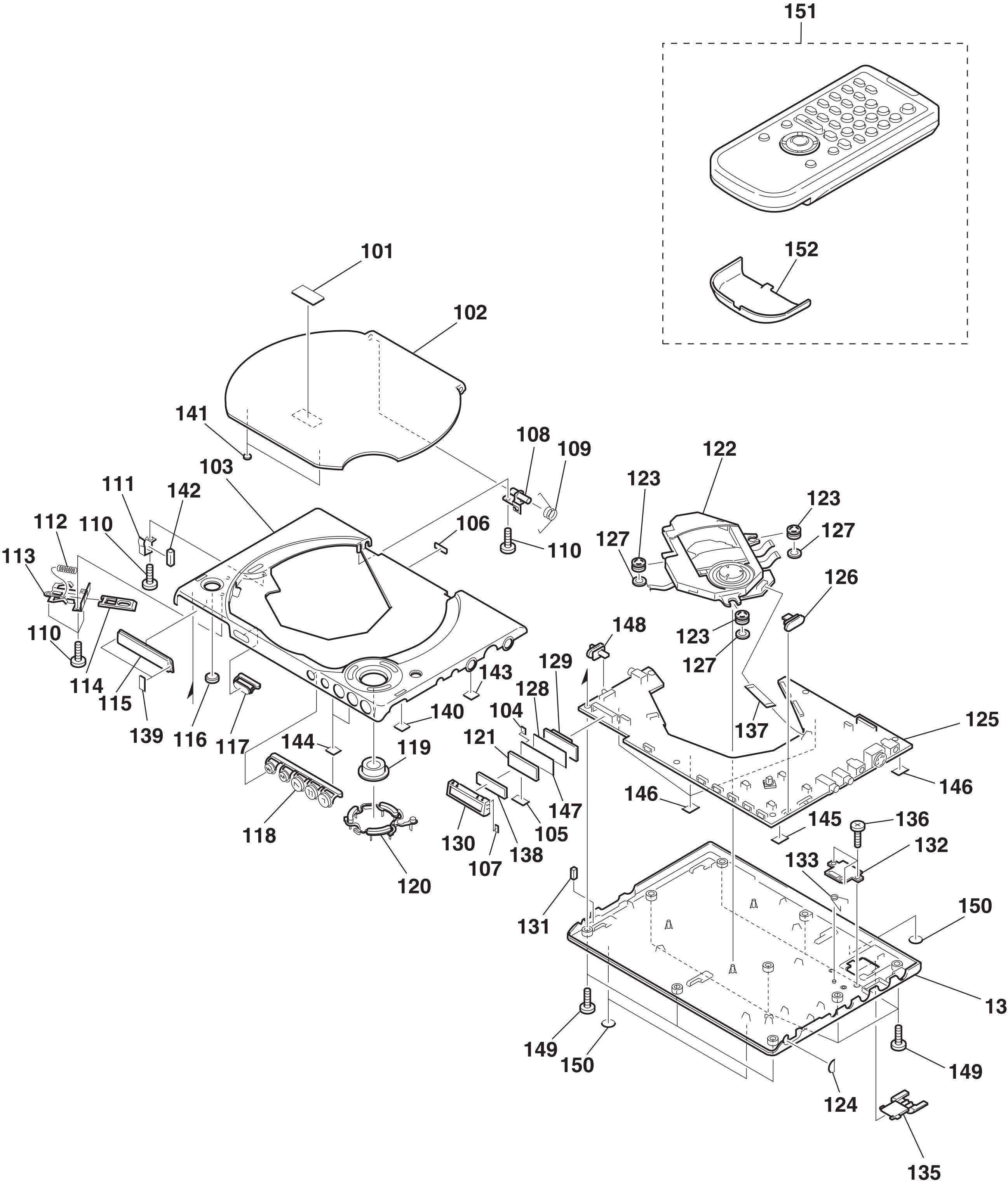
33
32
37
55
37
34
5
37
5
52
35

Ref. No.	Part No.	Description	Remarks
1	3-060-742-01	EMBLEM, DVD	
2	3-060-740-01	LID,CD	
3	3-060-731-01	CABINET (UPPER)	
4	3-060-728-01	COVER (L), FULCRUM	
5	3-060-730-01	SCREW (M1.7X4)	
6	3-062-580-01	CUSION (CD LID)	
7	3-060-741-01	BOSS (LCD), DETECTION	
8	X-3950-587-1	PLATE (CD LID) ASSY FULCRUM	
9	3-060-736-01	SPRING (OPEN), TORSION	
10	7-627-852-27	+P1.7X3	
11	3-061-138-01	SPRING, CLICK	
12	3-060-743-01	SPRING, COMPRESSION	
13	3-060-739-01	BRACKET (OPEN)	
14	3-060-738-01	LEVER, LOCK	
15	3-060-734-01	PLATE (LCD), TRANSPARENT	
16	3-060-737-01	BUTTON, OPEN	
17	3-060-735-01	BUTTON, POWER	
18	3-060-732-01	BUTTON (SPPS), CONTROL	
19	3-060-759-01	BUTTON, CURSOR	
20	3-060-733-01	BUTTON (TMDR), CONTROL	
21	3-060-729-01	COVER (R), FULCRUM	
22	A-6066-015-A	AX-202 (J)	
23	4-221-927-11	INSULATOR	
* 25	A-6065-526-A	MB-90 COMPL (US, CND)	
* 25	A-6065-527-A	MB-90 COMPL (AEP)	
* 25	A-6065-528-A	MB-90 COMPL (UK)	
* 25	A-6065-529-A	MB-90 COMPL (HK)	
* 25	A-6065-530-A	MB-90 COMPL (CH)	
26	3-060-764-01	KNOB, HOLD	
27	3-060-765-01	KNOB, I/O SELECTION (for LINE/HP SRS)	
28	3-061-130-01	SHEET, REFLECTION	
* 29	A-6065-433-A	LC-68 COMPLE	
30	3-060-761-01	PLATE, LIGHT GUIDE	
31	3-060-725-01	TABLE, RUBBER FOOT ROTARY	
32	3-060-722-01	BRACKET, SHUTTER	
33	3-060-723-01	SPRING (SHUTTER), TORSION	
34	3-060-720-01	CABINET (LOWER)	
35	3-060-721-01	SHUTTER	
36	3-060-724-01	PRECISION (M1.4), 0 PLATE	
37	3-061-129-01	FOOT, RUBBER	
38	1-803-942-11	DISPLAY PANEL	
39	3-060-745-01	SHEET (TRANSPARET PLATE)	
40	3-062-578-01	SHEET (TMDR), ADHESIVE	
41	3-062-579-01	CUSHION (DIA 2.5)	
42	3-062-923-02	CUSHION (CLICK SPRING)	
43	3-063-209-02	SHEET (DC OUT)	
44	3-063-152-01	SHEET (TD), ADHESIVE	
45	3-062-912-01	SHEET, LUMILER	
46	4-926-729-01	CUSHION (F)	
47	3-060-760-01	BRACKET, LCD	
48	3-060-762-01	SHEET, DIFFUSION	
49	3-062-581-01	SHEET (LIGHT GUIDE PLATE)	
50	3-060-763-01	CONNECTOR, RUBBER	
51	3-559-407-01	CUSHION, STOPPER	
52	3-060-726-01	SEAL (HOLD)	
54	3-063-154-01	CUSHION (INSULATOR)	
55	3-063-210-01	CUSHION (SPACER)	
56	1-792-690-11	CABLE, FLEXIBLE FLAT 10P	
57	1-418-987-11	REMOTE COMMANDER (RMT-D114A)	
58	3-709-572-01	COVER, BATTERY (FOR RMT-D114A)	

8-1-2. MAIN SECTION (F5)


151
152
101
102
141
108
109
122
103
111
142
123
123
127
127
112
110
106
110
113
126
148
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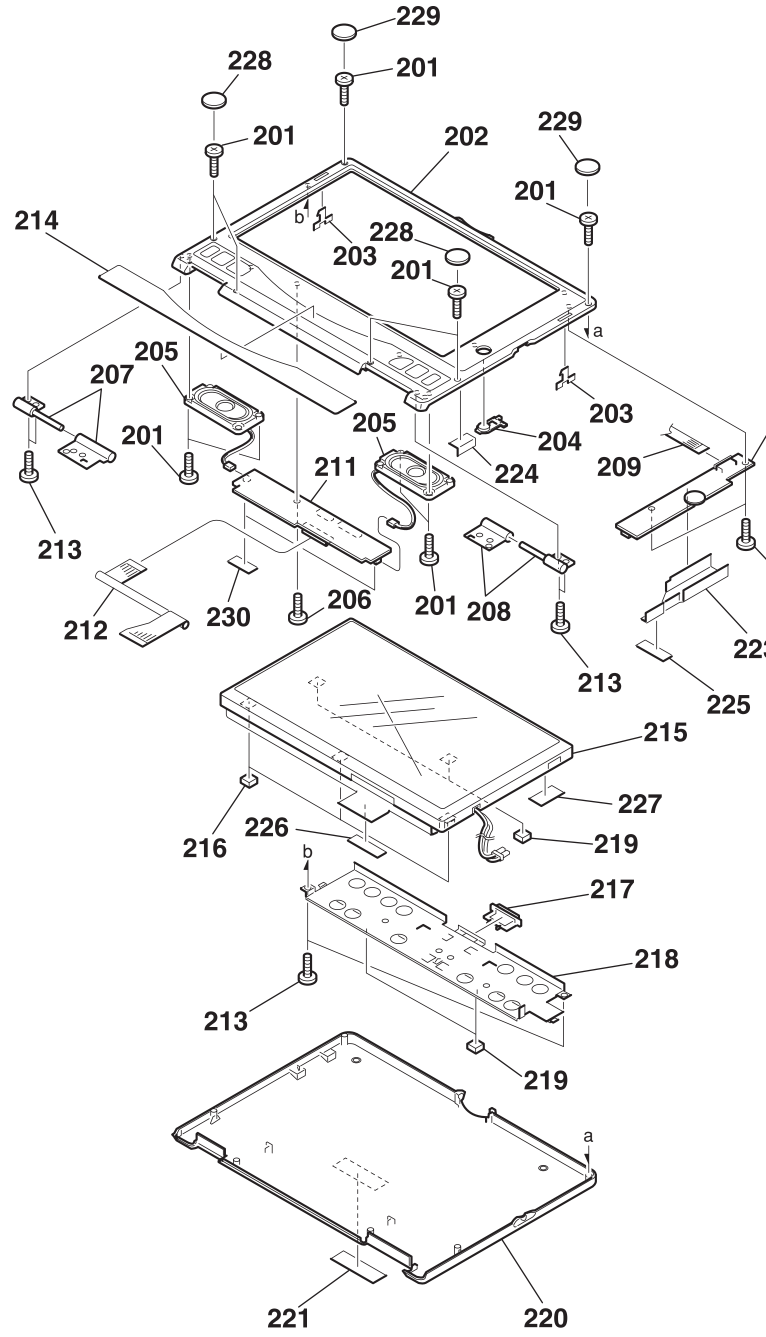
149
124
135

Ref. No.	Part No.	Description	Remarks
101	3-060-742-01	EMBLEM, DVD	
102	3-060-740-11	LID,CD	
103	3-060-731-11	CABINET (UPPER)	
104	3-062-581-01	SHEET (LIGHT GUIDE PLATE)	
105	3-060-763-01	CONNECTOR, RUBBER	
106	3-062-580-01	CUSION (CD LID)	
107	3-559-407-01	CUSHION, STOPPER	
108	X-3950-587-1	PLATE (CD LID) ASSY FULCRUM	
109	3-060-736-01	SPRING (OPEN), TORSION	
110	7-627-852-27	+P1.7X3	
111	3-061-138-01	SPRING, CLICK	
112	3-060-743-01	SPRING, COMPRESSION	
113	3-060-739-01	BRACKET (OPEN)	
114	3-060-738-01	LEVER, LOCK	
115	3-060-734-01	PLATE (LCD), TRANSPARENT	
116	3-060-737-01	BUTTON, OPEN	
117	3-060-735-01	BUTTON, POWER	
118	3-060-732-01	BUTTON (SPPS), CONTROL	
119	3-060-759-01	BUTTON, CURSOR	
120	3-060-733-01	BUTTON (TMDR), CONTROL	
121	3-060-762-01	SHEET, DIFFUSION	
122	A-6066-015-A	AX-202	
123	4-221-927-11	INSULATOR	
124	3-060-726-01	SEAL (HOLD)	
* 125	A-6065-521-A	MB-90 COMPL (AEP)	
* 125	A-6065-522-A	MB-90 COMPL (UK)	
* 125	A-6065-524-A	MB-90 COMPL (AUS)	
* 125	A-6065-525-A	MB-90 COMPL (CH)	
126	3-060-764-01	KNOB, HOLD	
127	3-063-154-01	CUSHION (INSULATOR)	
128	3-061-130-01	SHEET, REFLECTION	
* 129	A-6065-433-A	LC-68 COMPLE	
130	3-060-761-01	PLATE, LIGHT GUIDE	
131	3-063-210-01	CUSHION (SPACER)	
132	3-060-722-01	BRACKET, SHUTTER	
133	3-060-723-01	SPRING (SHUTTER), TORSION	
134	3-060-720-11	CABINET (LOWER)	
135	3-060-721-01	SHUTTER	
136	3-060-724-01	PRECISION (M1.4), 0 PLATE	
137	1-792-690-11	CABLE, FLEXIBLE FLAT 10P	
138	1-803-942-11	DISPLAY PANEL, LIQUID CRYSTAL	
139	3-060-745-01	SHEET (TRANSPARET PLATE)	
140	3-062-578-01	SHEET (TMDR), ADHESIVE	
141	3-062-579-01	CUSHION (DIA 2.5)	
142	3-062-923-02	CUSHION (CLICK SPRING)	
143	3-063-209-02	SHEET (DC OUT)	
144	3-063-152-01	SHEET (TD), ADHESIVE	
145	3-062-912-01	SHEET, LUMILER	
146	4-926-729-01	CUSHION (F)	
147	3-060-760-01	BRACKET, LCD	
148	3-060-765-01	KNOB, I/O SELECTION (for LINE/HP SRS)	
149	3-060-730-01	SCREW (M1.7X4)	
150	3-061-129-01	FOOT, RUBBER	
151	1-418-987-11	REMOTE COMMANDER (RMT-D114A)	
152	3-709-572-01	COVER, BATTERY (FOR RMT-D114A)	

8-1-3. LCD SECTION (FX1)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Ref. No.	Part No.	Description	Remarks
201	3-060-730-01	SCREW (M1.7X4)	
202	3-060-750-01	COVER, LCD	
203	3-060-754-01	CLAW,LOCK	
204	3-060-752-01	BUTTON, MODE	
205	1-529-633-11	SPEAKER (4X2CM)	
206	3-060-757-01	SCREW (M1.7X2)	
207	3-060-751-01	HINGE, TORQUE	
208	3-060-758-01	HINGE, DUMMY	
209	1-792-691-11	CABLE, FLEXIBLE FLAT	
210	1-418-888-11	INVERTER	
* 211	A-6065-432-A	TP-61 COMPL (AEP,UK,CN,HK)	
* 211	A-6065-531-A	TP-61 COMPL (US,CND)	
212	1-678-130-11	PWB,FLEXIBLE	
213	7-627-857-27	+P1.7X3	
214	3-060-756-01	GRILLE, SPEAKER	
215	1-803-941-11	DISPLAY PANEL, LIQUID CRYSTAL	
216	4-638-847-01	CUSHION, HOLDER	
217	3-060-753-01	BUTTON (LCD), OPEN	
218	X-3950-588-1	CHASSIS ASSY, LINK	
219	3-062-234-01	CUSHION (A)	
220	3-060-746-01	CABINET, LCD	
221	3-060-747-01	EMBLEM, SONY	
223	3-060-755-01	COVER (INV), INSULATING	
224	3-062-750-01	COVER (BL) INSULATING	
225	3-941-343-01	TAPE (A)	
226	3-062-235-01	SHEET (LCD), PROTECTION	
227	3-062-236-01	SHEET (INV), PROTECTION	
228	3-060-749-01	CUSHION, RLIND	
229	3-060-748-01	CUSHION (LCD)	
230	3-321-147-01	CUSHION (C)	

8-2. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...
- Abbreviation:
  CND : Canadian model
  HK : Hong Kong model
  CN : Chinese model
  AUS : Australian model

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

以阴影和⚠标志来识别的零部件在安全方面具有关键性。因此只能以规定号码的零部件来更换。

Ref. No.	Part No.	Description			Remarks
*	A-6065-433-A	LC-68 BOARD, COMPLETE *********************			
		< CONNECTOR >			
CN1001	1-691-477-21	CONNECTOR, BOARD TO BOARD 28P			
		< DIODE >			
D1006	8-719-080-36	DIODE FA1113F-732-TR			
D1012	8-719-080-36	DIODE FA1113F-732-TR			
		< RESISTOR >			
R1003	1-216-811-11	METAL CHIP	150	5%	1/16W
R1008	1-216-864-11	METAL CHIP	0	5%	1/16W
*	A-6065-526-A	MB-90 BOARD, COMPLETE (FX1:US,CND) **********************			
*	A-6065-520-A	MB-90 BOARD, COMPLETE (F5:US,CND) **********************			
*	A-6065-527-A	MB-90 BOARD, COMPLETE (FX1:AEP) **********************			
*	A-6065-521-A	MB-90 BOARD, COMPLETE (F5:AEP) **********************			
*	A-6065-528-A	MB-90 BOARD, COMPLETE (FX1:UK) **********************			
*	A-6065-522-A	MB-90 BOARD, COMPLETE (F5:UK) **********************			
*	A-6065-530-A	MB-90 BOARD, COMPLETE (FX1:CN) **********************			
*	A-6065-525-A	MB-90 BOARD, COMPLETE (F5:CN) **********************			
*	A-6065-529-A	MB-90 BOARD, COMPLETE (FX1:HK) **********************			
*	A-6065-524-A	MB-90 BOARD, COMPLETE (F5:AUS) **********************			
		< CONNECTOR >			
BT501	1-694-678-21	CONNECTOR, BLOCK (BATTERY CHARGE)			
		< CAPACITOR >			
C001	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C002	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C003	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C004	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C005	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C006	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C007	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C008	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C009	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C010	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C011	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C012	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C013	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C014	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C015	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C016	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C017	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C018	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C020	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C101	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C103	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C105	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C106	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C107	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C108	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
					(FX1)
C109	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C110	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C111	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
					(FX1)
C112	1-125-899-11	TANTAL. CHIP	220uF	20%	4V
C113	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C114	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C116	1-164-384-11	CERAMIC CHIP	130PF	5%	50V
C117	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
					(FX1)
C118	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C119	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
					(FX1)
C120	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C201	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C203	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C205	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C206	1-162-960-11	CERAMIC CHIP	220PF	10%	50V
C207	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C208	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
					(FX1)
C209	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C210	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C211	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
					(FX1)

MB-90

Ref. No.	Part No.	Description			Remarks
C212	1-125-899-11	TANTAL. CHIP	220uF	20%	4V
C213	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C214	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C216	1-164-384-11	CERAMIC CHIP	130PF	5%	50V
C217	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (FX1)
C218	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C219	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (FX1)
C220	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C301	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C302	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C303	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C304	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C305	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C306	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C307	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C308	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C309	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C310	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
C311	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C312	1-135-177-21	TANTALUM CHIP	1uF	20%	16V
C314	1-125-822-11	TANTALUM	10uF	20%	10V
C315	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C316	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C317	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C318	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C319	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C320	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C321	1-125-822-11	TANTALUM	10uF	20%	10V
C322	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C323	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C324	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C325	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C326	1-113-601-11	TANTAL. CHIP	1uF	20%	10V
C327	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C328	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C329	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C330	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C331	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C332	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C333	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (FX1)
C334	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C335	1-113-500-11	TANTAL. CHIP	100uF	20%	10V (FX1)
C336	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C337	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V (FX1)
C338	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C341	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C343	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C345	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C346	1-125-822-11	TANTALUM	10uF	20%	10V
C347	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C348	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C349	1-125-822-11	TANTALUM	10uF	20%	10V
C350	1-109-982-11	CERAMIC CHIP	1uF	10%	0V
C351	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (FX1)
C352	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V (FX1)
C353	1-125-822-11	TANTALUM	10uF	20%	10V (FX1)
C354	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C355	1-164-156-11	CERAMIC CHIP	0.1uF		25V (FX1)
C356	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C357	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V (FX1)
C358	1-125-822-11	TANTALUM	10uF	20%	10V
C359	1-125-899-11	TANTAL. CHIP	220uF	20%	4V
C360	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C361	1-125-899-11	TANTAL. CHIP	220uF	20%	4V
C362	1-127-895-91	TANTAL. CHIP	22uF	20%	4V
C363	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C364	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V (FX1)
C365	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C366	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C368	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C369	1-162-921-11	CERAMIC CHIP	33PF	5%	50V
C370	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C371	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V (FX1)
C372	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V (FX1)
C373	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (FX1)
C380	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C401	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C402	1-127-820-91	CERAMIC	4.7uF		16V
C403	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C404	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C405	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C406	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C407	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C408	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C409	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C410	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C411	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C412	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C413	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C414	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C415	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C416	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C417	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C418	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C419	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C420	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C421	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C422	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C423	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C424	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V

Ref. No.	Part No.	Description			Remarks
C425	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C426	1-127-573-91	CERAMIC CHIP	1uF	10%	16V
C427	1-127-573-91	CERAMIC CHIP	1uF	10%	16V
C434	1-125-990-11	ELECT CHIP	47uF	20%	20V
C435	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C436	1-125-990-11	ELECT CHIP	47uF	20%	20V
C437	1-125-990-11	ELECT CHIP	47uF	20%	20V
C438	1-125-990-11	ELECT CHIP	47uF	20%	20V
C439	1-125-990-11	ELECT CHIP	47uF	20%	20V
C440	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C441	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C442	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C443	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C444	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C445	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C447	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C452	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C453	1-125-822-11	TANTALUM	10uF	20%	10V
C454	1-125-822-11	TANTALUM	10uF	20%	10V
C455	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C456	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C457	1-125-822-11	TANTALUM	10uF	20%	10V
C458	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C459	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C460	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C461	1-127-573-91	CERAMIC CHIP	1uF	10%	16V
C462	1-127-573-91	CERAMIC CHIP	1uF	10%	16V
C463	1-127-573-91	CERAMIC CHIP	1uF	10%	16V
C464	1-127-573-91	CERAMIC CHIP	1uF	10%	16V
C465	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C501	1-127-820-91	CERAMIC	4.7uF		16V
C502	1-117-681-11	ELECT CHIP	100uF	20%	16V
C503	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C504	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C505	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C508	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C510	1-135-407-21	TANTAL. CHIP	47uF	20%	16V
C515	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C516	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C601	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C602	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C603	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C604	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C605	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C606	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C607	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C608	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C609	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C610	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C611	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C612	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C613	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C614	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C615	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C616	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C617	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C618	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C619	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C620	1-111-253-11	TANTAL. CHIP	100uF	20%	6.3V
C621	1-104-852-11	TANTAL. CHIP	22uF	20%	10V
C622	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C623	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C624	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C625	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C626	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C627	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C628	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C629	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C630	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C631	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C632	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C651	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C652	1-125-822-11	TANTALUM	10uF	20%	10V
C653	1-125-822-11	TANTALUM	10uF	20%	10V
C654	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C655	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C656	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C657	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C658	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C659	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C660	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C661	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C662	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C663	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C664	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C665	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C666	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C667	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C668	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C669	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C670	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C671	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C672	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C675	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C676	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C677	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C678	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C679	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C680	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C681	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C682	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C683	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C684	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C685	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C686	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C687	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C688	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C689	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C690	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

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Ref. No.	Part No.	Description			Remarks
C701	1-125-822-11	TANTALUM	10uF	20%	10V
C702	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C703	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C704	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C705	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C706	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C707	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C708	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C709	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C710	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C711	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C712	1-104-914-11	TANTAL. CHIP	22uF	20%	16V
C713	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C715	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C716	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C717	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (FX1)
C718	1-127-820-91	CERAMIC	4.7uF		16V (FX1)
C719	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C720	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V (FX1)
C722	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C801	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C802	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C803	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C804	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C805	1-125-822-11	TANTALUM	10uF	20%	10V
C806	1-125-822-11	TANTALUM	10uF	20%	10V
C807	1-125-822-11	TANTALUM	10uF	20%	10V
C808	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C809	1-125-822-11	TANTALUM	10uF	20%	10V
C810	1-125-822-11	TANTALUM	10uF	20%	10V
C811	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C812	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C813	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C814	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C815	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C816	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C817	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C818	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C823	1-125-822-11	TANTALUM	10uF	20%	10V
C824	1-125-822-11	TANTALUM	10uF	20%	10V
C825	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V
C826	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C827	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C828	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
C829	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C830	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C831	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C832	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C833	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C834	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C835	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C836	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C837	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C838	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C839	1-125-822-11	TANTALUM	10uF	20%	10V

Ref. No.	Part No.	Description			Remarks
C840	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C841	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C842	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C843	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C844	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C845	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C846	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C847	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C852	1-125-822-11	TANTALUM	10uF	20%	10V
C853	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C854	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C855	1-113-642-11	TANTAL. CHIP	47uF	20%	10V
C857	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C858	1-162-915-11	CERAMIC CHIP	10PF	0.5PF	50V
C863	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C864	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C868	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C871	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C875	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C876	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C877	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C878	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C879	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C881	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C882	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C883	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C884	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C885	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C886	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C887	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C888	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C889	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C890	1-125-822-11	TANTALUM	10uF	20%	10V
C891	1-110-569-11	TANTAL. CHIP	47uF	20%	4V
C892	1-110-569-11	TANTAL. CHIP	47uF	20%	4V
C893	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C894	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C895	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C897	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C898	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C899	1-125-822-11	TANTALUM	10uF	20%	10V
C901	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C902	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C903	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C904	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C905	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C906	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C907	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C908	1-125-822-11	TANTALUM	10uF	20%	10V
C909	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C910	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C952	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C953	1-125-822-11	TANTALUM	10uF	20%	10V
C954	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C955	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V

Ref. No.	Part No.	Description			Remarks
C956	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C957	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C958	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C959	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C960	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C961	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C962	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C963	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C964	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C965	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C966	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C967	1-125-822-11	TANTALUM	10uF	20%	10V
C968	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C969	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C970	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C971	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C972	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C973	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C974	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C975	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C976	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C977	1-164-156-11	CERAMIC CHIP	0.1uF		25V
		< CONNECTOR >			
CN001	1-779-884-11	CONNECTOR 4P			
CN701	1-691-538-11	CONNECTOR, BOARD TO BOARD 28P			
CN702	1-779-330-21	CONNECTOR, FFC/FPC 12P			
CN703	1-794-620-11	CONNECTOR, FFC/FPC (ZIF) 32P (FX1)			
CN801	1-794-186-21	CONNECTOR, FPC (ZIF) 18P			
CN802	1-794-187-21	CONNECTOR, FPC (ZIF) 16P			
CN803	1-794-188-21	CONNECTOR, FPC (ZIF) 7P			
* CN804	1-793-751-21	CONNECTOR, FPC (ZIF) 10P			
CN951	1-785-125-21	CONNECTOR 6P			
		< DIODE >			
D101	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D102	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D201	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D202	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D301	8-719-988-61	DIODE	1SS355TE-17		
D303	8-719-941-86	DIODE	DAN202UT106		
D304	8-719-941-86	DIODE	DAN202UT106		
D305	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D306	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D307	8-719-988-61	DIODE	1SS355TE-17		
D308	8-719-941-86	DIODE	DAN202UT106		
D309	8-719-988-61	DIODE	1SS355TE-17		
D311	8-719-941-86	DIODE	DAN202UT106 (FX1)		
D313	8-719-941-86	DIODE	DAN202UT106		
D351	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D352	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D353	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D402	8-719-066-98	DIODE	RB051L-40TE25		
D405	8-719-066-98	DIODE	RB051L-40TE25		
D407	8-719-076-80	DIODE	SBS004-TL		

Ref. No.	Part No.	Description		Remarks
D501	8-719-941-86	DIODE	DAN202UT106	
D502	8-719-066-98	DIODE	RB051L-40TE25	
D503	8-719-073-35	DIODE	RB551V-30TE-17	
D504	8-719-066-98	DIODE	RB051L-40TE25	
D505	8-719-066-98	DIODE	RB051L-40TE25	
D506	8-719-066-98	DIODE	RB051L-40TE25	
D508	8-719-941-23	DIODE	DA204UT106	
D601	8-719-071-87	DIODE	MA785- (TX),SO	
D651	8-719-062-16	DIODE	01ZA8.2 (TPL3)	
D652	8-719-062-16	DIODE	01ZA8.2 (TPL3)	
D653	8-719-062-16	DIODE	01ZA8.2 (TPL3)	
D801	8-719-988-61	DIODE	1SS355TE-17	
D802	8-719-988-61	DIODE	1SS355TE-17	
D803	8-719-066-16	DIODE	RB491D-T146	
D805	8-719-988-61	DIODE	1SS355TE-17	
D806	8-719-062-16	DIODE	01ZA8.2 (TPL3)	
D807	8-719-062-16	DIODE	01ZA8.2 (TPL3)	
D808	8-719-988-61	DIODE	1SS355TE-17	
D809	8-719-988-61	DIODE	1SS355TE-17	
		< FUSE >		
⚠F401	1-576-410-21	FUSE, CHIP (2A)		
⚠F402	1-533-922-21	FUSE, CHIP		
⚠F501	1-533-952-21	FUSE, CHIP		
⚠F502	1-533-952-21	FUSE, CHIP (FX1:3.15A)		
⚠F502	1-576-410-21	FUSE, CHIP (F5:2A)		
		< FERRITE BEAD >		
FB001	1-414-226-21	INDUCTOR CHIP 0UH		
FB002	1-414-226-21	INDUCTOR CHIP 0UH		
FB003	1-414-226-21	INDUCTOR CHIP 0UH		
FB004	1-414-226-21	INDUCTOR CHIP 0UH		
FB005	1-414-226-21	INDUCTOR CHIP 0UH		
FB006	1-414-226-21	INDUCTOR CHIP 0UH		
FB101	1-469-117-21	FERRITE 0UH		
FB102	1-414-445-11	FERRITE 0UH		
FB103	1-414-445-11	FERRITE 0UH		
FB201	1-469-117-21	FERRITE 0UH		
FB202	1-414-445-11	FERRITE 0UH		
FB203	1-414-445-11	FERRITE 0UH		
FB301	1-414-445-11	FERRITE 0UH		
FB351	1-469-117-21	FERRITE 0UH		
FB352	1-469-117-21	FERRITE 0UH		
FB353	1-469-117-21	FERRITE 0UH		
FB401	1-469-324-21	FERRITE 0UH		
FB402	1-469-324-21	FERRITE 0UH		
FB651	1-469-835-21	INDUCTOR 0UH		
FB652	1-469-835-21	INDUCTOR 0UH		
FB653	1-469-835-21	INDUCTOR 0UH		
FB654	1-469-835-21	INDUCTOR 0UH		
FB701	1-414-921-11	INDUCTOR CHIP 0UH		
FB702	1-414-921-11	INDUCTOR CHIP 0UH		

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

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Ref. No.	Part No.	Description	Remarks
		< FILTER >	
FL001	1-234-177-21	FILTER, CHIP EMI	
FL002	1-234-177-21	FILTER, CHIP EMI	
FL003	1-234-177-21	FILTER, CHIP EMI	
FL402	1-234-177-21	FILTER, CHIP EMI	
FL601	1-234-177-21	FILTER, CHIP EMI	
FL602	1-234-177-21	FILTER, CHIP EMI	
FL603	1-234-177-21	FILTER, CHIP EMI	
FL651	1-234-177-21	FILTER, CHIP EMI	
FL652	1-234-177-21	FILTER, CHIP EMI	
FL654	1-234-177-21	FILTER, CHIP EMI	
FL655	1-234-177-21	FILTER, CHIP EMI	
FL701	1-233-893-21	FILTER, CHIP EMI (FX1)	
FL801	1-233-736-21	FILTER, EMI	
FL802	1-233-736-21	FILTER, EMI	
FL951	1-234-177-21	FILTER, CHIP EMI	
FL953	1-234-177-21	FILTER, CHIP EMI	
		< IC >	
IC001	8-759-667-20	IC BR9080F-E2	
IC002	8-759-663-92	IC MB91107PFV-G-BND	
IC003	8-759-427-92	IC PST9126NL	
IC005	8-759-667-86	IC CXD9572N-E2	
IC301	7-759-667-85	IC CXD9545Q	
IC302	8-759-672-74	IC CS4391-KZR	
IC303	8-759-661-88	IC NJM2123V (TE2)	
IC304	8-759-597-24	IC NJM2190V (TE2)	
IC305	8-759-161-75	IC NJM2112V (TE2)	
IC307	8-759-672-75	IC TPA0122PWPR (FX1)	
IC308	8-759-196-96	IC TC7SH08FU-TE85R	
IC309	8-759-544-55	IC MAX4066CEE-TE2 (FX1)	
IC310	8-759-048-93	IC LA4534M-TE-L	
IC311	8-749-014-79	IC LM2664M6X	
IC351	8-759-522-11	IC BA7660FS-E2	
IC352	8-759-661-87	IC NJM2535V (TE2) (FX1)	
IC353	8-759-242-78	IC TC7W02FU (TE12R) (FX1)	
IC354	8-759-488-29	IC TC7W66FU (TE12R) (FX1)	
IC401	8-759-491-22	IC MB3825APFV-G-BND-ER	
IC402	8-759-474-97	IC TK1125BMCL	
IC501	8-759-347-77	IC S-81233SG-QF-T1	
IC502	8-759-660-86	IC S-8520F18MC-BND-T2	
IC504	8-759-281-13	IC S-81250SG-QD-T1	
IC601	8-759-486-55	IC NJM2370U33-TE2	
IC602	8-759-656-89	IC CXD9576GF	
IC603	8-759-643-10	IC GM71V18160CT-6TR	
IC651	8-759-486-55	IC NJM2370U33-TE2	
IC652	8-752-404-72	IC CXD1932GA-T6	
IC653	8-759-567-34	IC HY57V161610DTC-7TR	
IC654	8-759-567-34	IC HY57V161610DTC-7TR	
IC701	8-759-661-91	IC M37513M8-055GP	
IC702	8-759-177-23	IC RS-50-T	
IC703	8-759-445-82	IC RN5VD26AA-TL	
IC801	8-749-016-23	IC SSI33P3721-R4	
IC802	8-759-491-47	IC TC74VHCT08AFT (EL)	

Ref. No.	Part No.	Description	Remarks
IC803	8-759-359-49	IC NJM3414AV (TE2)	
IC805	8-759-660-82	IC BA5901K	
IC808	8-759-490-72	IC MPC17A29VMEL	
IC810	8-759-082-60	IC TC7S66FU (TE85R)	
IC811	8-759-710-79	IC NJM2107F-TE2	
IC812	8-759-701-40	IC NJM3404AM-TE1	
IC813	8-759-710-82	IC NJM2406F-TE2	
IC951	8-759-701-40	IC NJM3404AM-TE1	
IC952	8-759-660-85	IC CXD9570R	
		< JACK >	
J301	1-569-950-41	JACK (SMALL TYPE) (PHONES)	
J302	8-749-016-28	ICJFJ8001-010010 (AUDIO IN/OUT/OPTICAL OUT)	
J351	1-794-192-11	JACK,SMALL TYPE (VIDEO IN/OUT)	
J352	1-794-189-11	CONNECTOR, MINIATURE DIN 4P (S VIDEO OUT)	
J401	1-794-190-11	JACK,LINIFIED POLARIT TYPE DC (DC OUT 5V)	
J501	1-569-966-11	JACK,DC(POLARITY UNIFIED TYPE) (DC IN 10V)	
		< COIL >	
L301	1-412-029-11	INDUCTOR CHIP 10uH	
L302	1-412-029-11	INDUCTOR CHIP 10uH	
L303	1-469-561-21	INDUCTOR 100uH	
L351	1-412-029-11	INDUCTOR CHIP 10uH	
L352	1-469-556-21	INDUCTOR 15uH	
L353	1-469-556-21	INDUCTOR 15uH	
L354	1-469-553-21	INDUCTOR 4.7uH	
L401	1-419-314-21	INDUCTOR 15uH	
L402	1-419-605-21	INDUCTOR 15uH	
L403	1-419-314-21	INDUCTOR 15uH	
L404	1-419-314-21	INDUCTOR 15uH	
L405	1-419-605-21	INDUCTOR 15uH	
L406	1-419-314-21	INDUCTOR 15uH	
L407	1-412-027-11	INDUCTOR CHIP 2.2uH	
L408	1-419-098-21	INDUCTORS (POWER)	
L409	1-412-027-11	INDUCTOR CHIP 2.2uH	
L410	1-412-027-11	INDUCTOR CHIP 2.2uH	
L411	1-419-098-21	INDUCTORS (POWER)	
L412	1-412-027-11	INDUCTOR CHIP 2.2uH	
L501	1-419-606-21	INDUCTOR 22uH	
L702	1-414-398-11	INDUCTOR 10uH	
L801	1-412-029-11	INDUCTOR CHIP 10uH	
L802	1-412-029-11	INDUCTOR CHIP 10uH	
L803	1-412-031-11	INDUCTOR CHIP 47uH	
L804	1-412-029-11	INDUCTOR CHIP 10uH	
L805	1-412-628-51	INDUCTOR 33uH	
L806	1-419-098-21	INDUCTORS (POWER)	
		< LINE FILTER >	
LF501	1-239-581-21	FILTER, EMI	

Ref. No.	Part No.	Description	Remarks
		< TRANSISTOR >	
Q101	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q102	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q103	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q201	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q202	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q203	8-729-023-22	TRANSISTOR 2SD2114KT146	
Q301	8-729-928-81	TRANSISTOR DTC144EE-TL (FX1)	
Q302	8-729-930-00	TRANSISTOR UMD2-TR (FX1)	
Q303	8-729-928-81	TRANSISTOR DTC144EE-TL	
Q304	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q305	8-729-928-81	TRANSISTOR DTC144EE-TL	
Q306	8-729-930-00	TRANSISTOR UMD2-TR	
Q307	8-729-905-35	TRANSISTOR 2SC4081T106R	
Q308	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q309	8-729-928-81	TRANSISTOR DTC144EE-TL	
Q310	8-729-928-81	TRANSISTOR DTC144EE-TL (FX1)	
Q311	8-729-930-00	TRANSISTOR UMD2-TR (FX1)	
Q312	8-729-928-27	TRANSISTOR DTA144EE-TL	
Q313	8-729-928-81	TRANSISTOR DTC144EE-TL (FX1)	
Q314	8-729-904-87	TRANSISTOR 2SB1197K-T-146-R	
Q315	8-729-927-68	TRANSISTOR UMW1-TR	
Q316	8-729-928-81	TRANSISTOR DTC144EE-TL	
Q317	8-729-930-00	TRANSISTOR UMD2-TR	
Q318	8-729-928-81	TRANSISTOR DTC144EE-TL	
Q319	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q320	8-729-928-81	TRANSISTOR DTC144EE-TL	
Q321	8-729-420-24	TRANSISTOR 2SB1218A-QRS-TX	
Q322	8-729-928-81	TRANSISTOR DTC144EE-TL	
Q351	8-729-231-74	TRANSISTOR 2SC4116GL-TE85L (FX1)	
Q352	8-729-928-81	TRANSISTOR DTC144EE-TL (FX1)	
Q353	8-729-928-81	TRANSISTOR DTC144EE-TL (FX1)	
Q354	8-729-928-81	TRANSISTOR DTC144EE-TL	
Q355	8-729-930-00	TRANSISTOR UMD2-TR	
Q356	8-729-231-74	TRANSISTOR 2SC4116GL-TE85L (FX1)	
Q401	8-729-052-30	TRANSISTOR CPH5705-TL	
Q402	8-729-048-75	TRANSISTOR CPH3109-TL	
Q403	8-729-052-30	TRANSISTOR CPH5705-TL	
Q404	8-729-052-30	TRANSISTOR CPH5705-TL	
Q405	8-729-048-75	TRANSISTOR CPH3109-TL	
Q406	8-729-052-30	TRANSISTOR CPH5705-TL	
Q409	8-729-029-14	TRANSISTOR DTC144EUA-T106	
Q410	8-729-051-47	TRANSISTOR XP162A12A6PR	
Q411	8-729-051-47	TRANSISTOR XP162A12A6PR	
Q412	8-729-051-47	TRANSISTOR XP162A12A6PR	
Q413	8-729-051-47	TRANSISTOR XP162A12A6PR	
Q414	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q415	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q416	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q501	8-729-907-00	TRANSISTOR DTC114EUA-T106	
Q503	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q504	8-729-051-47	TRANSISTOR XP162A12A6PR	
Q505	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q508	8-729-015-88	TRANSISTOR UMC3TL	
Q509	8-729-015-88	TRANSISTOR UMC3TL	
Q510	8-729-028-90	TRANSISTOR DTA143ZUA-T106	

Ref. No.	Part No.	Description	Remarks
Q515	8-729-028-27	TRANSISTOR 2SK2009 (TE85L)	
Q516	8-729-048-75	TRANSISTOR CPH3109-TL	
Q517	8-729-904-87	TRANSISTOR 2SB1197K-T-146-R	
Q518	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q701	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q702	8-729-028-90	TRANSISTOR DTA143ZUA-T106	
Q801	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q802	8-729-043-94	TRANSISTOR CPH3106-PM-TL	
Q803	8-729-922-10	TRANSISTOR 2SA1577-T106-R	
Q804	8-729-928-87	TRANSISTOR DTC124EE-TL	
Q805	8-729-928-90	TRANSISTOR DTC114EE-TL	
Q807	8-729-903-46	TRANSISTOR 2SB1132-T100-QR	
Q808	8-729-928-87	TRANSISTOR DTC124EE-TL	
Q811	8-729-922-10	TRANSISTOR 2SA1577-T106-R	
Q812	8-729-927-62	TRANSISTOR UMX1-TN	
		< RESISTOR >	
R001	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R002	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R003	1-216-801-11	METAL CHIP 22 5% 1/16W	
R005	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R007	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R008	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R011	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R017	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R019	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R021	1-216-801-11	METAL CHIP 22 5% 1/16W	
R023	1-216-801-11	METAL CHIP 22 5% 1/16W	
R025	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R027	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R029	1-216-809-11	METAL CHIP 100 5% 1/16W	
R031	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R032	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R033	1-216-834-11	METAL CHIP 12K 5% 1/16W	(FX1:AEP,UK/F5:AEP,UK)
R033	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	(FX1:CN/F5:CN)
R033	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	(DVP-FX1:HK)
R033	1-216-817-11	METAL CHIP 470 5% 1/16W	(F5:AUS)
R034	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R035	1-216-820-11	METAL CHIP 820 5% 1/16W	(FX1)
R035	1-216-817-11	METAL CHIP 470 5% 1/16W	(F5)
R036	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R037	1-216-841-11	METAL CHIP 47K 5% 1/16W	(FX1:AEP,UK/F5:AEP,UK)
R037	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	(FX1:CN/F5:CN)
R037	1-216-837-11	METAL CHIP 22K 5% 1/16W	(DVP-FX1:HK)
R037	1-216-834-11	METAL CHIP 12K 5% 1/16W	(F5:AUS)
R038	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R039	1-216-845-11	METAL CHIP 100K 5% 1/16W	

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Ref. No.	Part No.	Description			Remarks
R043	1-216-833-91	RES-CHIP	10K	5%	1/16W
R044	1-216-864-11	METAL CHIP	0	5%	1/16W
R045	1-216-864-11	METAL CHIP	0	5%	1/16W
R047	1-218-457-11	RES-CHIP	910	5%	1/16W
R052	1-216-864-11	METAL CHIP	0	5%	1/16W
R053	1-216-864-11	METAL CHIP	0	5%	1/16W
R055	1-216-864-11	METAL CHIP	0	5%	1/16W
R056	1-216-864-11	METAL CHIP	0	5%	1/16W
R057	1-216-864-11	METAL CHIP	0	5%	1/16W
R059	1-216-809-11	METAL CHIP	100	5%	1/16W
R061	1-216-821-11	METAL CHIP	1K	5%	1/16W
R063	1-216-809-11	METAL CHIP	100	5%	1/16W
R064	1-216-809-11	METAL CHIP	100	5%	1/16W
R066	1-216-833-91	RES-CHIP	10K	5%	1/16W
R067	1-216-833-91	RES-CHIP	10K	5%	1/16W
R070	1-216-833-91	RES-CHIP	10K	5%	1/16W
R101	1-218-869-11	METAL CHIP	8.2K	0.5%	1/16W
R102	1-218-869-11	METAL CHIP	8.2K	0.5%	1/16W
R103	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R104	1-218-851-11	METAL CHIP	1.5K	0.5%	1/16W
R105	1-218-851-11	METAL CHIP	1.5K	0.5%	1/16W
R106	1-216-864-11	METAL CHIP	0	5%	1/16W (F5)
R107	1-216-817-11	METAL CHIP	470	5%	1/16W
R108	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R109	1-216-817-11	METAL CHIP	470	5%	1/16W
R110	1-216-845-11	METAL CHIP	100K	5%	1/16W
R112	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R113	1-218-891-11	METAL CHIP	68K	0.5%	1/16W
R114	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R115	1-218-879-11	METAL CHIP	22K	0.5%	1/16W (FX1)
R115	1-216-864-11	METAL CHIP	0	5%	1/16W (F5)
R116	1-218-891-11	METAL CHIP	68K	0.5%	1/16W (FX1)
R116	1-216-864-11	METAL CHIP	0	5%	1/16W (F5)
R117	1-218-879-11	METAL CHIP	22K	0.5%	1/16W (FX1)
R118	1-218-831-11	METAL CHIP	220	0.5%	1/16W
R119	1-216-864-11	METAL CHIP	0	5%	1/16W (FX1)
R120	1-216-845-11	METAL CHIP	100K	5%	1/16W (FX1)
R125	1-216-821-11	METAL CHIP	1K	5%	1/16W
R126	1-218-863-11	METAL CHIP	4.7K	0.5%	1/16W
R127	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R128	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R129	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R130	1-218-859-11	METAL CHIP	3.3K	0.5%	1/16W
R131	1-216-793-11	RES-CHIP	4.7	5%	1/16W
R132	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R133	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R134	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R201	1-218-869-11	METAL CHIP	8.2K	0.5%	1/16W
R202	1-218-869-11	METAL CHIP	8.2K	0.5%	1/16W
R203	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R204	1-218-851-11	METAL CHIP	1.5K	0.5%	1/16W
R205	1-218-851-11	METAL CHIP	1.5K	0.5%	1/16W
R206	1-216-864-11	METAL CHIP	0	5%	1/16W (F5)
R207	1-216-817-11	METAL CHIP	470	5%	1/16W
R208	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R209	1-216-817-11	METAL CHIP	470	5%	1/16W
R210	1-216-845-11	METAL CHIP	100K	5%	1/16W
R212	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R213	1-218-891-11	METAL CHIP	68K	0.5%	1/16W
R214	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R215	1-218-879-11	METAL CHIP	22K	0.5%	1/16W (FX1)
R215	1-216-864-11	METAL CHIP	0	5%	1/16W (F5)
R216	1-218-891-11	METAL CHIP	68K	0.5%	1/16W (FX1)
R216	1-216-864-11	METAL CHIP	0	5%	1/16W (F5)
R217	1-218-879-11	METAL CHIP	22K	0.5%	1/16W (FX1)
R218	1-218-831-11	METAL CHIP	220	0.5%	1/16W
R219	1-216-864-11	METAL CHIP	0	5%	1/16W (FX1)
R220	1-216-845-11	METAL CHIP	100K	5%	1/16W (FX1)
R225	1-216-821-11	METAL CHIP	1K	5%	1/16W
R226	1-218-863-11	METAL CHIP	4.7K	0.5%	1/16W
R227	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R228	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R229	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R230	1-218-859-11	METAL CHIP	3.3K	0.5%	1/16W
R231	1-216-793-11	RES-CHIP	4.7	5%	1/16W
R232	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R233	1-216-789-11	METAL CHIP	2.2	5%	1/16W
R234	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R300	1-216-864-11	METAL CHIP	0	5%	1/16W
R302	1-216-864-11	METAL CHIP	0	5%	1/16W
R303	1-216-809-11	METAL CHIP	100	5%	1/16W
R304	1-216-864-11	METAL CHIP	0	5%	1/16W
R305	1-216-809-11	METAL CHIP	100	5%	1/16W
R307	1-216-864-11	METAL CHIP	0	5%	1/16W
R308	1-216-864-11	METAL CHIP	0	5%	1/16W
R309	1-216-864-11	METAL CHIP	0	5%	1/16W
R310	1-218-885-11	METAL CHIP	39K	0.5%	1/16W
R311	1-216-837-11	METAL CHIP	22K	5%	1/16W
R312	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R314	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R315	1-216-864-11	METAL CHIP	0	5%	1/16W
R316	1-216-837-11	METAL CHIP	22K	5%	1/16W (FX1)
R317	1-216-864-11	METAL CHIP	0	5%	1/16W (F5)
R318	1-216-837-11	METAL CHIP	22K	5%	1/16W (FX1)
R319	1-216-864-11	METAL CHIP	0	5%	1/16W (F5)

Ref. No.	Part No.	Description				Remarks
R320	1-216-845-11	METAL CHIP	100K	5%	1/16W	(FX1)
R321	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R322	1-218-863-11	METAL CHIP	4.7K	0.5%	1/16W	
R323	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R324	1-218-873-11	METAL CHIP	12K	0.5%	1/16W	
R326	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R327	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R328	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R329	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R330	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R331	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R332	1-216-864-11	METAL CHIP	0	5%	1/16W	
R333	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R334	1-216-864-11	METAL CHIP	0	5%	1/16W	
R336	1-216-864-11	METAL CHIP	0	5%	1/16W	
R337	1-216-864-11	METAL CHIP	0	5%	1/16W	
R338	1-216-821-11	METAL CHIP	1K	5%	1/16W	
R339	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R340	1-216-842-11	METAL CHIP	56K	5%	1/16W	
R341	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R343	1-216-864-11	METAL CHIP	0	5%	1/16W	(FX1)
R345	1-216-864-11	METAL CHIP	0	5%	1/16W	(FX1)
R347	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R348	1-216-837-11	METAL CHIP	22K	5%	1/16W	(FX1)
R349	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R350	1-216-845-11	METAL CHIP	100K	5%	1/16W	
R351	1-216-864-11	METAL CHIP	0	5%	1/16W	(F5)
R352	1-216-813-11	METAL CHIP	220	5%	1/16W	(FX1)
R353	1-216-809-11	METAL CHIP	100	5%	1/16W	(FX1)
R354	1-216-837-11	METAL CHIP	22K	5%	1/16W	(FX1)
R355	1-216-837-11	METAL CHIP	22K	5%	1/16W	(FX1)
R356	1-216-833-91	RES-CHIP	10K	5%	1/16W	(FX1)
R357	1-216-833-91	RES-CHIP	10K	5%	1/16W	(FX1)
R358	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R359	1-208-755-11	METAL CHIP	75	0.5%	1/10W	(FX1)
R360	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R361	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R362	1-208-755-11	METAL CHIP	75	0.5%	1/10W	
R363	1-208-755-11	METAL CHIP	75	0.5%	1/10W	
R364	1-208-755-11	METAL CHIP	75	0.5%	1/10W	
R365	1-216-864-11	METAL CHIP	0	5%	1/16W	(F5)
R366	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R367	1-216-864-11	METAL CHIP	0	5%	1/16W	(FX1)
R368	1-218-289-11	RES-CHIP	510	5%	1/16W	
R369	1-218-289-11	RES-CHIP	510	5%	1/16W	

Ref. No.	Part No.	Description				Remarks
R370	1-216-864-11	METAL CHIP	0	5%	1/16W	
R371	1-216-837-11	METAL CHIP	22K	5%	1/16W	(FX1)
R372	1-216-837-11	METAL CHIP	22K	5%	1/16W	(FX1)
R373	1-216-809-11	METAL CHIP	100	5%	1/16W	(FX1)
R374	1-216-821-11	METAL CHIP	1K	5%	1/16W	(FX1)
R380	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R381	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R383	1-216-813-11	METAL CHIP	220	5%	1/16W	
R384	1-216-813-11	METAL CHIP	220	5%	1/16W	
R385	1-216-819-11	METAL CHIP	680	5%	1/16W	
R386	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R387	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R388	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	
R389	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R390	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R391	1-216-864-11	METAL CHIP	0	5%	1/16W	
R392	1-216-864-11	METAL CHIP	0	5%	1/16W	
R394	1-216-864-11	METAL CHIP	0	5%	1/16W	
R395	1-216-864-11	METAL CHIP	0	5%	1/16W	
R401	1-216-841-11	METAL CHIP	47K	5%	1/16W	
R403	1-216-843-11	METAL CHIP	68K	5%	1/16W	
R405	1-216-851-11	METAL CHIP	330K	5%	1/16W	
R406	1-216-839-11	METAL CHIP	33K	5%	1/16W	
R407	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R408	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R409	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R410	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R411	1-216-837-11	METAL CHIP	22K	5%	1/16W	
R413	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R415	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R416	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R417	1-216-864-11	METAL CHIP	0	5%	1/16W	
R418	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R419	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R420	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R421	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R422	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R423	1-216-833-91	RES-CHIP	10K	5%	1/16W	
R424	1-216-864-11	METAL CHIP	0	5%	1/16W	
R425	1-216-864-11	METAL CHIP	0	5%	1/16W	
R426	1-216-864-11	METAL CHIP	0	5%	1/16W	
R427	1-216-864-11	METAL CHIP	0	5%	1/16W	
R428	1-216-864-11	METAL CHIP	0	5%	1/16W	
R429	1-216-864-11	METAL CHIP	0	5%	1/16W	
R430	1-216-864-11	METAL CHIP	0	5%	1/16W	
R431	1-218-855-11	METAL CHIP	2.2K	0.5%	1/16W	
R432	1-218-851-11	METAL CHIP	1.5K	0.5%	1/16W	
R433	1-218-875-11	METAL CHIP	15K	0.5%	1/16W	
R434	1-218-883-11	METAL CHIP	33K	0.5%	1/16W	
R435	1-218-859-11	METAL CHIP	3.3K	0.5%	1/16W	
R436	1-218-875-11	METAL CHIP	15K	0.5%	1/16W	
R437	1-218-879-11	METAL CHIP	22K	0.5%	1/16W	
R438	1-218-851-11	METAL CHIP	1.5K	0.5%	1/16W	
R439	1-218-871-11	METAL CHIP	10K	0.5%	1/16W	
R440	1-218-851-11	METAL CHIP	1.5K	0.5%	1/16W	

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Ref. No.	Part No.	Description			Remarks
R441	1-218-289-11	RES-CHIP	510	5%	1/16W
R442	1-218-851-11	METAL CHIP	1.5K	0.5%	1/16W
R443	1-218-883-11	METAL CHIP	33K	0.5%	1/16W
R444	1-218-859-11	METAL CHIP	3.3K	0.5%	1/16W
R445	1-218-875-11	METAL CHIP	15K	0.5%	1/16W
R446	1-218-881-11	METAL CHIP	27K	0.5%	1/16W
R447	1-218-878-11	METAL CHIP	20K	0.5%	1/16W
R448	1-218-875-11	METAL CHIP	15K	0.5%	1/16W
R449	1-216-864-11	METAL CHIP	0	5%	1/16W
R450	1-216-864-11	METAL CHIP	0	5%	1/16W
R451	1-216-864-11	METAL CHIP	0	5%	1/16W
R452	1-216-864-11	METAL CHIP	0	5%	1/16W
R453	1-216-864-11	METAL CHIP	0	5%	1/16W
R454	1-216-864-11	METAL CHIP	0	5%	1/16W
R455	1-216-864-11	METAL CHIP	0	5%	1/16W
R456	1-216-864-11	METAL CHIP	0	5%	1/16W
R457	1-216-864-11	METAL CHIP	0	5%	1/16W
R458	1-216-864-11	METAL CHIP	0	5%	1/16W
R459	1-216-864-11	METAL CHIP	0	5%	1/16W
R460	1-216-833-91	RES-CHIP	10K	5%	1/16W
R461	1-216-833-91	RES-CHIP	10K	5%	1/16W
R462	1-216-833-91	RES-CHIP	10K	5%	1/16W
R463	1-216-833-91	RES-CHIP	10K	5%	1/16W
R464	1-216-864-11	METAL CHIP	0	5%	1/16W
R465	1-216-864-11	METAL CHIP	0	5%	1/16W
R466	1-216-864-11	METAL CHIP	0	5%	1/16W
R467	1-216-864-11	METAL CHIP	0	5%	1/16W
R468	1-218-231-11	RES-CHIP	1	10%	1/2W
R469	1-216-864-11	METAL CHIP	0	5%	1/16W
R470	1-218-231-11	RES-CHIP	1	10%	1/2W
R471	1-218-904-11	METAL CHIP	240K	0.5%	1/16W
R472	1-218-891-11	METAL CHIP	68K	0.5%	1/16W
R473	1-216-841-11	METAL CHIP	47K	5%	1/16W
R474	1-216-821-11	METAL CHIP	1K	5%	1/16W
R476	1-216-864-11	METAL CHIP	0	5%	1/16W
R483	1-216-833-91	RES-CHIP	10K	5%	1/16W
R484	1-216-833-91	RES-CHIP	10K	5%	1/16W
R485	1-216-833-91	RES-CHIP	10K	5%	1/16W
R486	1-216-833-91	RES-CHIP	10K	5%	1/16W
R487	1-216-833-91	RES-CHIP	10K	5%	1/16W
R488	1-216-833-91	RES-CHIP	10K	5%	1/16W
R501	1-216-821-11	METAL CHIP	1K	5%	1/16W
R502	1-218-282-11	RES-CHIP	22	5%	1/2W
R503	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R504	1-216-864-11	METAL CHIP	0	5%	1/16W
R505	1-216-845-11	METAL CHIP	100K	5%	1/16W
R506	1-218-904-11	METAL CHIP	240K	0.5%	1/16W
R507	1-218-891-11	METAL CHIP	68K	0.5%	1/16W
R508	1-216-833-91	RES-CHIP	10K	5%	1/16W
R509	1-216-853-11	METAL CHIP	470K	5%	1/16W
R510	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R511	1-216-821-11	METAL CHIP	1K	5%	1/16W
R512	1-216-821-11	METAL CHIP	1K	5%	1/16W
R513	1-216-864-11	METAL CHIP	0	5%	1/16W
R514	1-216-821-11	METAL CHIP	1K	5%	1/16W
R516	1-216-864-11	METAL CHIP	0	5%	1/16W
R521	1-218-873-11	METAL CHIP	12K	0.5%	1/16W
R522	1-218-862-11	METAL CHIP	4.3K	0.5%	1/16W
R523	1-218-862-11	METAL CHIP	4.3K	0.5%	1/16W
R524	1-218-231-11	RES-CHIP	1	10%	1/2W
R525	1-218-231-11	RES-CHIP	1	10%	1/2W
R526	1-218-231-11	RES-CHIP	1	10%	1/2W
R527	1-218-904-11	METAL CHIP	240K	0.5%	1/16W
R528	1-218-891-11	METAL CHIP	68K	0.5%	1/16W
R530	1-216-864-11	METAL CHIP	0	5%	1/16W
R531	1-216-864-11	METAL CHIP	0	5%	1/16W
R532	1-216-821-11	METAL CHIP	1K	5%	1/16W
R533	1-216-857-11	METAL CHIP	1M	5%	1/16W
R534	1-216-833-91	RES-CHIP	10K	5%	1/16W
R601	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R602	1-218-831-11	METAL CHIP	220	0.5%	1/16W
R603	1-218-883-11	METAL CHIP	33K	0.5%	1/16W
R604	1-218-855-11	METAL CHIP	2.2K	0.5%	1/16W
R605	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R606	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R607	1-216-838-11	METAL CHIP	27K	5%	1/16W
R608	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R609	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R610	1-216-809-11	METAL CHIP	100	5%	1/16W
R612	1-216-833-91	RES-CHIP	10K	5%	1/16W
R613	1-216-845-11	METAL CHIP	100K	5%	1/16W
R614	1-216-833-91	RES-CHIP	10K	5%	1/16W
R615	1-216-833-91	RES-CHIP	10K	5%	1/16W
R616	1-216-833-91	RES-CHIP	10K	5%	1/16W
R617	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R618	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R619	1-218-853-11	METAL CHIP	1.8K	0.5%	1/16W
R620	1-216-833-91	RES-CHIP	10K	5%	1/16W
R621	1-216-813-11	METAL CHIP	220	5%	1/16W
R622	1-216-833-91	RES-CHIP	10K	5%	1/16W
R623	1-216-833-91	RES-CHIP	10K	5%	1/16W
R624	1-216-864-11	METAL CHIP	0	5%	1/16W
R625	1-216-833-91	RES-CHIP	10K	5%	1/16W
R626	1-216-833-91	RES-CHIP	10K	5%	1/16W
R627	1-216-833-91	RES-CHIP	10K	5%	1/16W
R628	1-216-809-11	METAL CHIP	100	5%	1/16W
R629	1-216-864-11	METAL CHIP	0	5%	1/16W
R630	1-216-833-91	RES-CHIP	10K	5%	1/16W
R631	1-216-833-91	RES-CHIP	10K	5%	1/16W
R632	1-216-833-91	RES-CHIP	10K	5%	1/16W
R633	1-216-833-91	RES-CHIP	10K	5%	1/16W
R634	1-216-864-11	METAL CHIP	0	5%	1/16W
R635	1-216-864-11	METAL CHIP	0	5%	1/16W
R637	1-216-801-11	METAL CHIP	22	5%	1/16W
R639	1-216-801-11	METAL CHIP	22	5%	1/16W
R640	1-216-821-11	METAL CHIP	1K	5%	1/16W
R651	1-216-864-11	METAL CHIP	0	5%	1/16W
R652	1-216-864-11	METAL CHIP	0	5%	1/16W
R653	1-216-864-11	METAL CHIP	0	5%	1/16W
R656	1-216-295-91	SHORT	0		

Ref. No.	Part No.	Description			Remarks
R659	1-216-809-11	METAL CHIP	100	5%	1/16W
R660	1-216-833-91	RES-CHIP	10K	5%	1/16W
R662	1-216-864-11	METAL CHIP	0	5%	1/16W
R665	1-218-831-11	METAL CHIP	220	0.5%	1/16W
R666	1-218-831-11	METAL CHIP	220	0.5%	1/16W
R667	1-218-831-11	METAL CHIP	220	0.5%	1/16W
R669	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R670	1-216-833-91	RES-CHIP	10K	5%	1/16W
R674	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R675	1-216-864-11	METAL CHIP	0	5%	1/16W
R676	1-216-841-11	METAL CHIP	47K	5%	1/16W
R677	1-216-864-11	METAL CHIP	0	5%	1/16W
R678	1-216-841-11	METAL CHIP	47K	5%	1/16W
R679	1-216-833-91	RES-CHIP	10K	5%	1/16W
R681	1-216-864-11	METAL CHIP	0	5%	1/16W
R682	1-216-864-11	METAL CHIP	0	5%	1/16W
R683	1-216-833-91	RES-CHIP	10K	5%	1/16W
R688	1-216-864-11	METAL CHIP	0	5%	1/16W
R701	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R702	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R704	1-216-833-91	RES-CHIP	10K	5%	1/16W
R705	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R706	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R707	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R709	1-216-833-91	RES-CHIP	10K	5%	1/16W
R710	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R711	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R712	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R713	1-218-271-11	RES-CHIP	2K	5%	1/16W
R715	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R716	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R718	1-216-833-91	RES-CHIP	10K	5%	1/16W
R719	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R720	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R721	1-216-837-11	METAL CHIP	22K	5%	1/16W
R722	1-216-833-91	RES-CHIP	10K	5%	1/16W
R723	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R724	1-216-851-11	METAL CHIP	330K	5%	1/16W
R725	1-216-833-91	RES-CHIP	10K	5%	1/16W
R726	1-216-845-11	METAL CHIP	100K	5%	1/16W
R728	1-216-809-11	METAL CHIP	100	5%	1/16W
R729	1-216-845-11	METAL CHIP	100K	5%	1/16W (F5)
R730	1-216-845-11	METAL CHIP	100K	5%	1/16W (FX1)
R731	1-216-845-11	METAL CHIP	100K	5%	1/16W (FX1:US,CND,CN,HK/F5:CN)
R732	1-216-845-11	METAL CHIP	100K	5%	1/16W (FX1/F5:AEP,UK)
R733	1-216-851-11	METAL CHIP	330K	5%	1/16W
R734	1-216-851-11	METAL CHIP	330K	5%	1/16W
R735	1-216-851-11	METAL CHIP	330K	5%	1/16W
R736	1-216-851-11	METAL CHIP	330K	5%	1/16W
R737	1-216-845-11	METAL CHIP	100K	5%	1/16W
R738	1-216-845-11	METAL CHIP	100K	5%	1/16W
R739	1-216-801-11	METAL CHIP	22	5%	1/16W
R740	1-216-809-11	METAL CHIP	100	5%	1/16W
R741	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R742	1-216-809-11	METAL CHIP	100	5%	1/16W
R744	1-216-864-11	METAL CHIP	0	5%	1/16W (FX1)
R745	1-216-809-11	METAL CHIP	100	5%	1/16W
R750	1-216-295-91	SHORT	0		(FX1)
R751	1-216-295-91	SHORT	0		(FX1)
R752	1-216-295-91	SHORT	0		(FX1)
R753	1-216-295-91	SHORT	0		(FX1)
R765	1-216-809-11	METAL CHIP	100	5%	1/16W
R766	1-216-809-11	METAL CHIP	100	5%	1/16W
R769	1-218-345-11	RES-CHIP	9.1K	5%	1/16W
R770	1-216-809-11	METAL CHIP	100	5%	1/16W
R773	1-216-845-11	METAL CHIP	100K	5%	1/16W
R774	1-216-845-11	METAL CHIP	100K	5%	1/16W (FX1:US,CND)
R775	1-216-845-11	METAL CHIP	100K	5%	1/16W (FX1/F5:AEP,UK,HK,CN)
R776	1-216-295-91	SHORT	0		(FX1)
R801	1-216-025-91	RES-CHIP	100	5%	1/10W
R802	1-216-023-00	METAL CHIP	82	5%	1/10W
R803	1-216-809-11	METAL CHIP	100	5%	1/16W
R804	1-216-864-11	METAL CHIP	0	5%	1/16W
R805	1-216-864-11	METAL CHIP	0	5%	1/16W
R806	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R807	1-216-849-11	METAL CHIP	220K	5%	1/16W
R808	1-216-853-11	METAL CHIP	470K	5%	1/16W
R809	1-216-864-11	METAL CHIP	0	5%	1/16W
R810	1-202-930-11	RES-CHIP	750K	5%	1/16W
R811	1-216-864-11	METAL CHIP	0	5%	1/16W
R812	1-216-864-11	METAL CHIP	0	5%	1/16W
R813	1-216-833-91	RES-CHIP	10K	5%	1/16W
R814	1-216-864-11	METAL CHIP	0	5%	1/16W
R815	1-216-864-11	METAL CHIP	0	5%	1/16W
R816	1-216-864-11	METAL CHIP	0	5%	1/16W
R818	1-216-864-11	METAL CHIP	0	5%	1/16W
R819	1-216-864-11	METAL CHIP	0	5%	1/16W
R821	1-216-813-11	METAL CHIP	220	5%	1/16W
R822	1-216-864-11	METAL CHIP	0	5%	1/16W
R823	1-216-864-11	METAL CHIP	0	5%	1/16W
R824	1-216-864-11	METAL CHIP	0	5%	1/16W
R826	1-216-864-11	METAL CHIP	0	5%	1/16W
R827	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R828	1-216-837-11	METAL CHIP	22K	5%	1/16W
R829	1-211-964-11	METAL CHIP	33	0.5%	1/10W
R830	1-211-964-11	METAL CHIP	33	0.5%	1/10W
R831	1-216-847-11	METAL CHIP	150K	5%	1/16W
R832	1-216-849-11	METAL CHIP	220K	5%	1/16W
R833	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R834	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
R835	1-216-821-11	METAL CHIP	1K	5%	1/16W
R836	1-211-964-11	METAL CHIP	33	0.5%	1/10W
R837	1-211-964-11	METAL CHIP	33	0.5%	1/10W
R838	1-216-837-11	METAL CHIP	22K	5%	1/16W
R839	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R840	1-216-841-11	METAL CHIP	47K	5%	1/16W
R842	1-216-852-11	METAL CHIP	390K	5%	1/16W
R843	1-216-852-11	METAL CHIP	390K	5%	1/16W
R844	1-216-864-11	METAL CHIP	0	5%	1/16W
R845	1-218-888-11	METAL CHIP	51K	0.5%	1/16W

Ref. No.	Part No.	Description			Remarks
R846	1-211-969-11	METAL CHIP	10	0.5%	1/16W
R847	1-216-841-11	METAL CHIP	47K	5%	1/16W
R848	1-211-969-11	METAL CHIP	10	0.5%	1/16W
R849	1-216-833-91	RES-CHIP	10K	5%	1/16W
R850	1-216-821-11	METAL CHIP	1K	5%	1/16W
R851	1-218-888-11	METAL CHIP	51K	0.5%	1/16W
R852	1-216-845-11	METAL CHIP	100K	5%	1/16W
R853	1-216-864-11	METAL CHIP	0	5%	1/16W
R854	1-216-843-11	METAL CHIP	68K	5%	1/16W
R856	1-216-864-11	METAL CHIP	0	5%	1/16W
R857	1-218-869-11	METAL CHIP	8.2K	0.5%	1/16W
R859	1-218-867-11	METAL CHIP	6.8K	0.5%	1/16W
R860	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R861	1-216-833-91	RES-CHIP	10K	5%	1/16W
R862	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R864	1-216-809-11	METAL CHIP	100	5%	1/16W
R865	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R866	1-218-707-11	RES-CHIP	4.3K	5%	1/16W
R867	1-216-864-11	METAL CHIP	0	5%	1/16W
R868	1-216-861-11	METAL CHIP	2.2M	5%	1/16W
R870	1-216-833-91	RES-CHIP	10K	5%	1/16W
R871	1-216-821-11	METAL CHIP	1K	5%	1/16W
R872	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R873	1-218-871-11	METAL CHIP	10K	0.5%	1/16W
R874	1-216-864-11	METAL CHIP	0	5%	1/16W
R875	1-216-864-11	METAL CHIP	0	5%	1/16W
R876	1-216-817-11	METAL CHIP	470	5%	1/16W
R877	1-216-864-11	METAL CHIP	0	5%	1/16W
R886	1-216-845-11	METAL CHIP	100K	5%	1/16W
R887	1-216-805-11	METAL CHIP	47	5%	1/16W
R888	1-216-833-91	RES-CHIP	10K	5%	1/16W
R890	1-216-864-11	METAL CHIP	0	5%	1/16W
R897	1-216-797-11	METAL CHIP	10	5%	1/16W
R902	1-218-857-11	METAL CHIP	2.7K	0.5%	1/16W
R903	1-218-878-11	METAL CHIP	20K	0.5%	1/16W
R904	1-218-857-11	METAL CHIP	2.7K	0.5%	1/16W
R905	1-218-857-11	METAL CHIP	2.7K	0.5%	1/16W
R906	1-216-833-91	RES-CHIP	10K	5%	1/16W
R911	1-216-833-91	RES-CHIP	10K	5%	1/16W
R912	1-216-857-11	METAL CHIP	1M	5%	1/16W
R913	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R914	1-216-845-11	METAL CHIP	100K	5%	1/16W
R917	1-216-864-11	METAL CHIP	0	5%	1/16W
R921	1-216-864-11	METAL CHIP	0	5%	1/16W
R922	1-216-833-91	RES-CHIP	10K	5%	1/16W
R923	1-216-833-91	RES-CHIP	10K	5%	1/16W
R924	1-218-294-11	RES-CHIP	30K	5%	1/16W
R925	1-216-821-11	METAL CHIP	1K	5%	1/16W
R926	1-216-797-11	METAL CHIP	10	5%	1/16W
R927	1-216-813-11	METAL CHIP	220	5%	1/16W
R928	1-216-844-11	METAL CHIP	82K	5%	1/16W
R929	1-216-835-11	METAL CHIP	15K	5%	1/16W
R930	1-216-841-11	METAL CHIP	47K	5%	1/16W
R933	1-216-841-11	METAL CHIP	47K	5%	1/16W
R934	1-216-844-11	METAL CHIP	82K	5%	1/16W

Ref. No.	Part No.	Description			Remarks
R937	1-216-841-11	METAL CHIP	47K	5%	1/16W
R938	1-216-841-11	METAL CHIP	47K	5%	1/16W
R939	1-216-835-11	METAL CHIP	15K	5%	1/16W
R940	1-216-840-11	METAL CHIP	39K	5%	1/16W
R941	1-216-840-11	METAL CHIP	39K	5%	1/16W
R942	1-216-821-11	METAL CHIP	1K	5%	1/16W
R943	1-216-821-11	METAL CHIP	1K	5%	1/16W
R944	1-216-821-11	METAL CHIP	1K	5%	1/16W
R945	1-216-821-11	METAL CHIP	1K	5%	1/16W
R946	1-216-821-11	METAL CHIP	1K	5%	1/16W
R947	1-216-821-11	METAL CHIP	1K	5%	1/16W
R948	1-216-821-11	METAL CHIP	1K	5%	1/16W
R949	1-216-821-11	METAL CHIP	1K	5%	1/16W
R950	1-216-817-11	METAL CHIP	470	5%	1/16W
R951	1-216-836-11	METAL CHIP	18K	5%	1/16W
R952	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R953	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R954	1-216-817-11	METAL CHIP	470	5%	1/16W
R955	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R956	1-218-847-11	METAL CHIP	1K	0.5%	1/16W
R957	1-216-821-11	METAL CHIP	1K	5%	1/16W
R958	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R959	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R960	1-216-803-11	METAL CHIP	33	5%	1/16W
R961	1-216-834-11	METAL CHIP	12K	5%	1/16W
R962	1-216-834-11	METAL CHIP	12K	5%	1/16W
R963	1-216-813-11	METAL CHIP	220	5%	1/16W
R964	1-216-836-11	METAL CHIP	18K	5%	1/16W
R965	1-216-817-11	METAL CHIP	470	5%	1/16W
R966	1-216-817-11	METAL CHIP	470	5%	1/16W
R967	1-216-817-11	METAL CHIP	470	5%	1/16W
R968	1-216-864-11	METAL CHIP	0	5%	1/16W
R970	1-216-801-11	METAL CHIP	22	5%	1/16W
R971	1-216-864-11	METAL CHIP	0	5%	1/16W
R972	1-216-864-11	METAL CHIP	0	5%	1/16W
R977	1-216-809-11	METAL CHIP	100	5%	1/16W
R978	1-216-833-91	RES-CHIP	10K	5%	1/16W
R979	1-216-833-91	RES-CHIP	10K	5%	1/16W
R980	1-216-809-11	METAL CHIP	100	5%	1/16W
R981	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB001	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K			
RB002	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K			
RB003	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K			
RB004	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K			
RB005	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K			
RB006	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K			
RB007	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K			
RB008	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K			
RB701	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K	(F5)		
RB702	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K	(F5)		
RB703	1-233-967-11	RES, NETWORK (CHIP TYPE) 10K	(F5)		
		< VARIABLE RESISTOR >			
RV301	1-225-315-11	RES, VAR, CARBON 10K/10K			
RV501	1-241-391-11	RES, ADJ, METAL GLAZE 470			
RV651	1-223-583-11	RES, ADJ, CARBON 1K			

Ref. No.	Part No.	Description	Remarks
		< SWITCH >	
S351	1-571-277-31	SWITCH, SLIDE (LIINE SELECT (IN/OUT))	(FX1)
S501	1-762-983-11	SWITCH, PUSH	
S701	1-771-248-11	SWITCH, TACTILE ((STOP))	
S702	1-771-248-11	SWITCH, TACTILE (PAUSE)	
S703	1-771-248-11	SWITCH, TACTILE ((NEXT))	
S704	1-771-248-11	SWITCH, TACTILE ((REW))	
S705	1-762-526-11	SWITCH (TITLE)	
S706	1-762-526-11	SWITCH (DVD MENU)	
S707	1-762-526-11	SWITCH (RETURN)	
S708	1-762-526-11	SWITCH (DISPLAY)	
S709	1-771-909-21	SWITCH, TACTILE (ENTER)	
S710	1-572-922-11	SWITCH, SLIDE (HOLD)	
S711	1-771-248-11	SWITCH, TACTILE ((PLAY))	
S712	1-771-248-11	SWITCH, TACTILE (POWER)	
S713	1-762-805-41	SWITCH, PUSH (1 KEY) (DOOR SW1)	
S714	1-762-805-41	SWITCH, PUSH (1 KEY) (DOOR SW2)	
S715	1-762-805-41	SWITCH, PUSH (1 KEY) (OPEN) (FX1)	
S716	1-572-922-11	SWITCH, SLIDE (HP SURRUND)	
		< THERMISTOR >	
TH701	1-809-357-21	THERMISTOR, NTC (2125)	
		< VARISTOR >	
VDR401	1-801-864-21	VARISTOR, CHIP	
VDR402	1-801-864-21	VARISTOR, CHIP	
VDR501	1-801-864-21	VARISTOR, CHIP	
VDR502	1-801-864-21	VARISTOR, CHIP	
		< VIBRATOR >	
X001	1-781-185-21	VIBRATOR, CERAMIC (12.5MHz)	
X002	1-781-796-21	VIBRATOR, CRYSTAL (27MHz)	
X701	1-767-359-11	VIBRATOR, CERAMIC (4MHz)	

Ref. No.	Part No.	Description	Remarks
*	A-6065-531-A	TP-61 BOARD, COMPLETE (FX1:US,CND) **********************	
*	A-6065-432-A	TP-61 BOARD, COMPLETE **********************	(FX1:AEP,UK,CN,HK)

Ref. No.	Part No.	Description			Remarks
		< CAPACITOR >			
C1101	1-110-398-11	TANTAL. CHIP	15uF	20%	35V
C1102	1-110-398-11	TANTAL. CHIP	15uF	20%	35V
C1103	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1104	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1105	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1106	1-164-930-11	CERAMIC CHIP	330PF	5%	16V
C1107	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C1108	1-135-212-21	TANTAL. CHIP	2.2uF	20%	35V
C1109	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1110	1-119-751-11	TANTAL. CHIP	22uF	20%	16V
C1111	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1112	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C1113	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C1114	1-113-981-11	TANTAL. CHIP	22uF	20%	20V
C1115	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1116	1-135-212-21	TANTAL. CHIP	2.2uF	20%	35V
C1117	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1118	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1119	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C1120	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C1121	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C1201	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1202	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1203	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C1204	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1205	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1206	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C1207	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1208	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C1209	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1210	1-117-949-81	CERAMIC CHIP	820PF	10%	16V
C1211	1-125-822-11	TANTALUM	10uF	20%	10V
C1212	1-164-936-11	CERAMIC CHIP	680PF	10%	16V
C1213	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V (AEP,UK,CN,HK)
C1214	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V (AEP,UK,CN,HK)
C1215	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C1216	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1217	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1218	1-164-872-11	CERAMIC CHIP	82PF	5%	16V
C1219	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1220	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1221	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1222	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1223	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1224	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1225	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1226	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1227	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1228	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C1229	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1230	1-164-848-11	CERAMIC CHIP	8PF	0.50PF	16V (AEP,UK,CN,HK)
C1231	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1232	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1233	1-104-912-11	TANTAL. CHIP	3.3uF	20%	16V
C1234	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C1235	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C1236	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C1237	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1241	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1242	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1243	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1244	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1245	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C1246	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C1247	1-115-581-11	TANTAL. CHIP	100uF	20%	16V
C1249	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C1250	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C1251	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C1254	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1255	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

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Ref. No.	Part No.	Description			Remarks
C1301	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1302	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1303	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1304	1-164-872-11	CERAMIC CHIP	82PF	5%	16V
C1305	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1306	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1307	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1308	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C1309	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1310	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1311	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C1312	1-164-862-11	CERAMIC CHIP	33PF	5%	16V
C1313	1-164-862-11	CERAMIC CHIP	33PF	5%	16V
C1314	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1315	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1316	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C1317	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1318	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1319	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1320	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1321	1-164-862-11	CERAMIC CHIP	33PF	5%	16V
C1322	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C1323	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C1324	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C1325	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1326	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1327	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1328	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C1329	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C1330	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1331	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1332	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C1333	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C1334	1-162-959-11	CERAMIC CHIP	330PF	5%	50V
C1335	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1336	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1337	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1338	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1339	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1340	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C1341	1-164-862-11	CERAMIC CHIP	33PF	5%	16V
C1342	1-104-913-11	TANTAL. CHIP	10uF	20%	16V
C1343	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1344	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1345	1-125-817-11	CERAMIC CHIP	10uF	10%	6.3V
C1346	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1347	1-115-419-11	CERAMIC CHIP	3300PF	5%	25V
C1348	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1349	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1350	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1351	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1352	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1353	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1354	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C1355	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1356	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description	Remarks
		< CONNECTOR >	
CN1101	1-784-894-11	CONNECTOR, FFC/FPC 32P	
CN1102	1-691-350-21	CONNECTOR, FFC/FPC (ZIF) 12P	
CN1103	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P	
CN1104	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P	
CN1301	1-784-894-11	CONNECTOR, FFC/FPC 32P	
		< DIODE >	
D1101	8-719-977-22	DIODE UDZ-TE-17-9.1B	
D1102	8-719-938-75	DIODE SB05-05CP-TB	
D1103	8-719-801-48	DIODE 1SS193-TE85L	
D1104	8-719-938-75	DIODE SB05-05CP-TB	
D1105	8-719-938-75	DIODE SB05-05CP-TB	
D1106	8-719-938-75	DIODE SB05-05CP-TB	
D1107	8-719-801-48	DIODE 1SS193-TE85L	
D1108	8-719-056-93	DIODE UDZ-TE-17-18B	
D1109	8-719-069-55	DIODE UDZS-TE17-5.6B	
D1110	8-719-069-59	DIODE UDZS-TE17-8.2B	
D1111	8-719-977-40	DIODE UDZ-TE-17-13B	
D1201	8-713-102-80	DIODE 1T369-01-T8A (AEP,UK,CN,HK)	
D1302	8-719-057-55	DIODE MA152K-TX	
D1303	8-719-022-91	DIODE MA335-TX	
D1304	8-719-976-99	DIODE UDZ-TE-17-5.1B	
D1305	8-719-976-99	DIODE UDZ-TE-17-5.1B	
D1306	8-719-038-48	DIODE 1SS319 (TE85R)	
		< FUSE >	
⚠F1101	1-533-922-21	FUSE, CHIP	
		< FILTER >	
FL1102	1-234-177-21	FILTER, CHIP EMI	
		< IC >	
IC1101	8-759-664-19	IC XC6367D103ML	
IC1201	8-759-450-52	IC IR3Y29B4	
IC1202	8-759-672-76	IC AK9813BF-E2	
IC1301	8-749-016-07	IC LZ9GJ18	
IC1302	8-759-710-79	IC NJM2107F-TE2	
IC1303	8-759-058-58	IC TC7S04FU (TE85R)	
IC1304	8-759-058-62	IC TC7S08FU (TE85R)	
IC1305	8-759-586-19	IC TC7WH123FU (TE12R)	
		< COIL >	
L1101	1-412-031-11	INDUCTOR CHIP 47uH	
L1102	1-412-031-11	INDUCTOR CHIP 47uH	
L1103	1-412-031-11	INDUCTOR CHIP 47uH	
L1104	1-412-031-11	INDUCTOR CHIP 47uH	
L1105	1-412-031-11	INDUCTOR CHIP 47uH	
L1106	1-412-031-11	INDUCTOR CHIP 47uH	
L1201	1-412-956-21	INDUCTOR 27uH (AEP,UK,CN,HK)	
L1301	1-412-953-11	INDUCTOR 15uH	
L1302	1-412-944-11	INDUCTOR 2.7uH	
L1303	1-412-947-11	INDUCTOR 4.7uH	
L1304	1-412-947-11	INDUCTOR 4.7uH	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性，因此只能以规定号码的零部件来更换。

Ref. No.	Part No.	Description			Remarks
		< TRANSISTOR >			
Q1101	8-729-921-72	TRANSISTOR	2SD1781K-T146-R		
Q1102	8-729-048-88	TRANSISTOR	2SK2788VYTR		
Q1103	8-729-904-87	TRANSISTOR	2SB1197K-T-146-R		
Q1104	8-729-904-87	TRANSISTOR	2SB1197K-T-146-R		
Q1105	8-729-921-72	TRANSISTOR	2SD1781K-T146-R		
Q1202	8-729-427-61	TRANSISTOR	XP4210-TXE		
Q1203	8-729-029-08	TRANSISTOR	DTC124XUA-T106		(AEP,UK,CN,HK)
Q1204	8-729-230-60	TRANSISTOR	2SA1586YG-TE85L		
Q1205	8-729-428-01	TRANSISTOR	XP6115-TXE		
Q1206	8-729-029-08	TRANSISTOR	DTC124XUA-T106		
Q1207	8-729-230-60	TRANSISTOR	2SA1586YG-TE85L		
Q1208	8-729-231-74	TRANSISTOR	2SC4116GL-TE85L		
Q1209	8-729-231-74	TRANSISTOR	2SC4116GL-TE85L		
Q1210	8-729-026-58	TRANSISTOR	FMY3A-T148		
Q1211	8-729-026-55	TRANSISTOR	FMY4A-T148		
Q1212	8-729-037-52	TRANSISTOR	2SD2216J-QR (TX).SO		(AEP,UK,CN,HK)
Q1213	8-729-029-08	TRANSISTOR	DTC124XUA-T106		
Q1301	8-729-901-90	TRANSISTOR	2SC2411K-T-146-CP		
		< RESISTOR >			
R1101	1-219-724-11	METAL CHIP	1	1%	1/4W
R1102	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1103	1-218-981-11	RES-CHIP	220K	5%	1/16W
R1104	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1105	1-218-929-11	RES-CHIP	10	5%	1/16W
R1106	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1107	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1108	1-218-974-11	RES-CHIP	56K	5%	1/16W
R1109	1-218-966-11	RES-CHIP	12K	5%	1/16W
R1110	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1111	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1112	1-218-990-11	SHORT	0		
R1113	1-218-990-11	SHORT	0		
R1114	1-216-295-91	SHORT	0		
R1202	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R1204	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1205	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R1207	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1208	1-218-950-11	RES-CHIP	560	5%	1/16W
R1209	1-218-983-11	RES-CHIP	330K	5%	1/16W
R1210	1-208-713-11	METAL CHIP	18K	0.5%	1/16W
R1211	1-218-983-11	RES-CHIP	330K	5%	1/16W
R1212	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1213	1-218-941-11	METAL CHIP	100	0.5%	1/16W
R1214	1-218-941-11	METAL CHIP	100	0.5%	1/16W
R1215	1-219-570-11	RES-CHIP	10M	5%	1/16W
R1219	1-218-973-11	RES-CHIP	47K	5%	1/16W (AEP,UK,CN,HK)
R1221	1-218-961-11	RES-CHIP	4.7K	5%	1/16W (AEP,UK,CN,HK)
R1222	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R1223	1-208-696-11	RES-CHIP	3.6K	5%	1/16W
R1224	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R1225	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1226	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1229	1-216-288-11	RES-CHIP	5.6M	5%	1/8W (AEP,UK,CN,HK)
R1230	1-218-989-11	RES-CHIP	1M	5%	1/16W
R1233	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R1234	1-218-947-11	RES-CHIP	330	5%	1/16W
R1235	1-218-955-11	RES-CHIP	1.5K	5%	1/16W
R1236	1-218-941-11	RES-CHIP	100	5%	1/16W
R1237	1-218-941-11	RES-CHIP	100	5%	1/16W
R1238	1-218-941-11	RES-CHIP	100	5%	1/16W
R1239	1-218-951-11	RES-CHIP	680	5%	1/16W (AEP,UK,CN,HK)
R1240	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R1242	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R1243	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R1245	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1246	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R1247	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R1248	1-218-966-11	RES-CHIP	12K	5%	1/16W
R1249	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1250	1-220-184-11	RES-CHIP	1.3K	5%	1/16W
R1251	1-218-952-11	RES-CHIP	820	5%	1/16W
R1252	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R1253	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R1254	1-218-950-11	RES-CHIP	560	5%	1/16W
R1255	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R1256	1-208-696-11	RES-CHIP	3.6K	5%	1/16W
R1257	1-208-696-11	RES-CHIP	3.6K	5%	1/16W
R1258	1-220-181-11	RES-CHIP	750	5%	1/16W
R1259	1-220-181-11	RES-CHIP	750	5%	1/16W
R1260	1-218-929-11	RES-CHIP	10	5%	1/16W
R1261	1-220-181-11	RES-CHIP	750	5%	1/16W
R1262	1-220-181-11	RES-CHIP	750	5%	1/16W
R1263	1-218-929-11	RES-CHIP	10	5%	1/16W
R1264	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1265	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1266	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1267	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1268	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1269	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1270	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1271	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1272	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1273	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1274	1-218-955-11	RES-CHIP	1.5K	5%	1/16W (AEP,UK,CN,HK)
R1275	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1276	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1283	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1284	1-218-985-11	RES-CHIP	470K	5%	1/16W
R1301	1-218-983-11	RES-CHIP	330K	5%	1/16W
R1302	1-218-950-11	RES-CHIP	560	5%	1/16W
R1303	1-218-950-11	RES-CHIP	560	5%	1/16W
R1304	1-218-950-11	RES-CHIP	560	5%	1/16W
R1305	1-218-986-11	RES-CHIP	560K	5%	1/16W
R1306	1-218-948-11	RES-CHIP	390	5%	1/16W

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Ref. No.	Part No.	Description			Remarks
R1307	1-218-950-11	RES-CHIP	560	5%	1/16W
R1308	1-218-950-11	RES-CHIP	560	5%	1/16W
R1309	1-218-986-11	RES-CHIP	560K	5%	1/16W
R1310	1-218-950-11	RES-CHIP	560	5%	1/16W
R1311	1-218-989-11	RES-CHIP	1M	5%	1/16W
R1312	1-218-990-11	SHORT	0		
R1315	1-218-990-11	SHORT	0		
R1316	1-218-950-11	RES-CHIP	560	5%	1/16W
R1317	1-208-696-11	RES-CHIP	3.6K	5%	1/16W
R1318	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R1319	1-218-973-11	RES-CHIP	47K	5%	1/16W
R1320	1-218-975-11	RES-CHIP	68K	5%	1/16W
R1322	1-218-950-11	RES-CHIP	560	5%	1/16W
R1323	1-218-950-11	RES-CHIP	560	5%	1/16W
R1324	1-218-975-11	RES-CHIP	68K	5%	1/16W
R1325	1-218-989-11	RES-CHIP	1M	5%	1/16W
R1326	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1327	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R1328	1-218-964-11	RES-CHIP	8.2K	5%	1/16W
R1330	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R1331	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R1332	1-218-947-11	RES-CHIP	330	5%	1/16W
R1333	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1334	1-218-971-11	RES-CHIP	33K	5%	1/16W
R1335	1-218-941-11	RES-CHIP	100	5%	1/16W
R1336	1-218-939-11	RES-CHIP	68	5%	1/16W
R1337	1-218-981-11	RES-CHIP	220K	5%	1/16W
R1338	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1339	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1340	1-218-977-11	RES-CHIP	100K	5%	1/16W
R1341	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
		< VARIABLE RESISTOR >			
RV1101	1-225-567-21	RES, ADJ, CERMET 2.2K			
RV1301	1-225-672-21	RES, ADJ, CERMET 100K			
RV1302	1-225-567-21	RES, ADJ, CERMET 2.2K			
		< TRANSFORMER >			
T1101	1-435-404-21	TRANSFORMER, CONVERTER OUTPUT			
		< VIBRATOR >			
X1201	1-781-795-21	VIBRATOR, CRYSTAL (3.58MHz)			
X1202	1-781-832-21	VIBRATOR, CRYSTAL (4.4MHz)			(AEP,UK,CN,HK)

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS **************	
38	1-803-942-11	DISPLAY PANEL, LIQUID CRYSTAL	
138	1-803-942-11	DISPLAY PANEL, LIQUID CRYSTAL	
205	1-529-633-11	SPEAKER (4X2CM) (FX1)	
209	1-792-691-11	CABLE, FLEXIBLE FLAT (FX1)	
210	1-418-888-11	INVERTER (FX1)	
212	1-678-130-11	PWB,FLEXIBLE (FX1)	
215	1-803-941-11	DISPLAY PANEL, LIQUID CRYSTAL (FX1)	
		ACCESSORIES ************	
	1-418-889-11	ADAPTOR, AC	
	1-418-987-11	REMOTECOMMANDER (RMT-D114A)	
	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P	(FX1:UK,HK/F5:UK)
⚠	1-790-107-22	CORD,POWER (FX1:US,CND)	
⚠	1-791-638-11	CORD,POWER (FX1:AEP,UK,HK/F5:AEP,UK)	
⚠	1-791-667-11	CORD,POWER (F5:AUS)	
⚠	1-791-937-11	CORD,POWER (FX1:CN/F5:CN)	
	1-792-682-11	CORD,CONNECTION (1.5m) (AV CABLE)	
	3-060-538-11	MANUAL, INSTRUCTION (ENGLISH)	(F5:AUS,CN)
	3-060-538-21	MANUAL, INSTRUCTION	(SIMPLIFIED, CHINESE) (F5:CN)
	3-060-719-11	MANUAL, INSTRUCTION (ENGLISH)	(FX1/F5:US,CND)
	3-060-719-21	MANUAL, INSTRUCTION (FRENCH)	(FX1/F5:US,CND)
	3-061-538-11	MANUAL, INSTRUCTION (ENGLISH)	(FX1/F5:AEP,UK`)
	3-061-538-21	MANUAL, INSTRUCTION (FRENCH)	(FX1/F5:AEP)
	3-061-538-31	MANUAL, INSTRUCTION (GERMAN)	(FX1/F5:AEP)
	3-061-538-41	MANUAL, INSTRUCTION (ITALIAN)	(FX1/F5:AEP)
	3-061-538-51	MANUAL, INSTRUCTION (DUTCH)	(FX1/F5:AEP)
	3-061-538-61	MANUAL, INSTRUCTION (SPANISH)	(FX1/F5:AEP)
	3-061-539-11	MANUAL, INSTRUCTION (ENGLISH)	(FX1:CN,HK)
	3-061-539-21	MANUAL, INSTRUCTION	(TRADITIONAL CHINESE) (FX1:HK)
	3-061-539-31	MANUAL, INSTRUCTION	(SIMPLIFIED,CHINESE) (FX1:CN,HK)
	3-709-572-01	COVER,BATTERY (FOR RMT-D114A)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.	以阴影和 ⚠ 标志来识别的零部件，在安全方面具有关键性．因此只能以规定号码的零部件来更换．

9-921-758-11

Sony Corporation
Network Entertainment Group

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